Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
1-800-327-3874
1-513-558-5111
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.
On peut demader cette fiche signalétique (MSDS) a la langue francaise-canadienne.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: DAP® BEATS THE NAIL® VOC Panel & Foam Construction Adhesive

Product UPC Number: 070798274259

Product Use/Class: Panel & Foam Construction Adhesive Latex

Manufacturer:
DAP Inc.
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 10/01/2007

Supersedes: 11/03/2004

MSDS Number: 00070041002

Section 2 - Hazards Identification

Emergency Overview: A white to off-white paste product with a very slight ammonia odor. WARNING! May cause eye, skin, nose, throat and respiratory tract irritation. Harmful if swallowed or absorbed through the skin. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: May cause skin irritation and/or dermatitis. May cause sensitization by skin contact. Harmful if absorbed through the skin.

Effects Of Overexposure - Inhalation: Harmful if inhaled. Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause respiratory system damage.

Prolonged and repeated skin contact may cause irritation and possibly dermatitis. Overexposure may cause kidney, cardiovascular, skin and liver damage.

Formaldehyde vapor is a known animal carcinogen according to OSHA and NTP and is considered possibly carcinogenic

to humans by inhalation. The International Agency for Research on Cancer considers formaldehyde to be a human carcinogen.

Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP
14808-60-7	Silica, crystalline	Suspected human carcinogen.	Not Listed.	Human carcinogen.	Known carcinogen.
50-00-0	Formaldehyde	Suspected human carcinogen.	Potential cancer hazard.	Human carcinogen.	Anticipated carcinogen.
140-88-5	Ethyl acrylate	Not Listed.	Not Listed.	Possible carcinogen.	Not Listed.
75-07-0	Acetaldehyde	Confirmed animal carcinogen with unknown relevance to humans.	Not Listed.	Possible carcinogen.	Anticipated carcinogen.
107-13-1	Acrylonitrile	Confirmed animal carcinogen with unknown relevance to humans.	Cancer hazard.	Possible carcinogen.	Anticipated carcinogen.

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
Limestone	1317-65-3	30-60
Ethyl acrylate,methacrylic aci	25212-88-8	1-5
Silica, crystalline	14808-60-7	0.1-1.0
Ethylene glycol	107-21-1	0.1-1.0
Ammonia	7664-41-7	0.1-1.0
Formaldehyde	50-00-0	<0.02
Ethyl arcylate	140-88-5	<0.007
Acetaldehyde	75-07-0	<0.002
Acrylonitrile	107-13-1	<0.0002

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

First Aid - Skin Contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical aid if symptoms persist. Remove and wash contaminated clothing.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: None.

COMMENTS: Call Medical Emergency at 1-800-327-3874 if any irritation or complication arises from any of the above routes of entry.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: No special protective measures against fire required.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use absorbent material or scrape up dried material and place in container.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Avoid breathing vapor and contact with eyes, skin and clothing. Use only with adequate ventilation. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions. Wash thoroughly after handling.

Storage: Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Close container after each use. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Limestone	1317-65-3	10 MGM3	N.E.	N.E.	5 MGM3 (respirable fraction)	N.E.	N.E.	No
Ethyl acrylate,methacrylic aci	25212-88-8	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Silica, crystalline	14808-60-7	0.05 MGM3	N.E.	N.E.	10/(%SiO2+2) MGM3	N.E.	N.E.	No
Ethylene glycol	107-21-1	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No
Ammonia	7664-41-7	25 PPM	35 PPM	N.E.	50 PPM	N.E.	N.E.	No
Formaldehyde	50-00-0	N.E.	N.E.	0.3 PPM	0.75 PPM	2 PPM	N.E.	No
Ethyl acrylate	140-88-5	5 PPM	15 PPM	N.E.	25 PPM	N.E.	N.E.	Yes
Acetaldehyde	75-07-0	N.E.	N.E.	25 PPM	200 PPM	N.E.	N.E.	No
Acrylonitrile	107-13-1	2 PPM	N.E.	N.E.	2 PPM	10 PPM	N.E.	Yes

Exposure Notes:

50-00-0 Formaldehyde is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1048. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1048.

107-13-1 Acrylonitrile is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1045. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1045.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Ensure adequate ventilation, especially in confined areas. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection: Rubber gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Very Slight Ammonia	**Odor Threshold:**	Not Established
Color:	White to Off-White	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.5
Freeze Point:	Not Established	**pH:**	Between 7.0 and 12.0
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Paste	**Flammability:**	Non-Flammable
Flash Point, F:	greater than 200 degrees Fahrenheit	**Method:**	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Established	**Upper Explosive Limit, %:**	Not Established

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg
7664-41-7	Ammonia	----------	Rat:2000 ppm/4H
50-00-0	Formaldehyde	----------	Rat:203 mg/m3
140-88-5	Ethyl acrylate	----------	Rat:1414 ppm/4H
75-07-0	Acetaldehyde	----------	Rat:13300 ppm/4H
107-13-1	Acrylonitrile	Oral Rat:78 mg/kg	Rat:425 ppm/4H

Significant Data with Possible Relevance to Humans: This product contains trace amounts of free formaldehyde. OSHA and NTP identify formaldehyde as a potential carcinogen. IARC identifies formaldehyde as a human carcinogen. Formaldehyde has been shown to cause mutations in a variety of in-vitro test systems, the significance of which to

humans is unknown. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limits.
Maintain adequate ventilation to prevent exposure above current OSHA / ACGIH exposure limits. Workplace monitoring of the air to define formaldehyde exposure levels may be necessary.
In a two-year inhalation study, rats showed carcinogenic effects in the respiratory system at 15 ppm of formaldehyde. Acrylonitrile has been classified by IARC as possibly carcinogenic to humans, by OSHA as carcinogenic and by NTP as reasonably anticipated to be a human carcinogen. This product contains trace amounts of acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a) (2) (ii).

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): None.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	**Packing Group:**	N.A.
DOT Technical Name:	None	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	None

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None.

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None.

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 1 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 28.6 lb/gal: 0.2 wt:wt%: 0.9

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 0.3

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable
N.E. – Not Established
N.D. – Not Determined
VOC – Volatile Organic Compound
PEL – Permissible Exposure Limit
TLV – Threshold Limit Value
CEIL – Ceiling Exposure Limit
LD50 – Lethal Dose 50
F – Degree Fahrenheit
C – Degree Celsius

ACGIH – American Conference of Governmental Industrial Hygienists
SARA – Superfund Amendments and Reauthorization Act of 1986
NJRTK – New Jersey Right-to-Know Law
OSHA – Occupational Safety and Health Administration
HMIS – Hazardous Materials Identification System
NTP – National Toxicology Program
STEL – Short Term Exposure Limit
LC50 – Lethal Concentration 50
MSDS – Material Safety Data Sheet
CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this

document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name:	Finishing Putty - All Colors	**Revision Date:**	08/26/2013
Product UPC Number:	070798179400, 070798212459, 070798212473, 070798212503, 070798212510, 070798212558, 070798212626, 070798212664, 070798212688, 070798212701, 070798212725, 070798212749, 070798212763	**Supersedes:**	09/01/2009
Product Use/Class:	Finishing Putty	**MSDS Number:**	00077064001
Manufacturer:	**DAP Products Inc.** **2400 Boston Street Suite 200** **Baltimore, MD 21224-4723** **888-327-8477 (non-emergency matters)**		

Section 2 - Hazards Identification

Emergency Overview: A(n) colored paste product with a slight odor. CAUTION! May cause eye, skin, nose, throat and respiratory tract irritation. Removal of this product after use or by dry sanding will generate dust and exposure to this dust may be irritating to the eyes, ears, nose and mouth. If dry-sanded, exposure to dust may result in build-up of material in eyes, ears, nose, and mouth.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation. Signs and symptoms may include: pain, tears, swelling, redness and blurred vision.

Effects Of Overexposure - Skin Contact: May cause skin irritation. Not expected to cause skin problems under normal use conditions.

Effects Of Overexposure - Inhalation: Harmful if inhaled, may affect the brain or nervous system causing dizziness, headache or nausea. If dry-sanded, asthma and asthma-like conditions may exist.

Effects Of Overexposure - Ingestion: Harmful or fatal if swallowed. If ingested, may cause depressed respiration. Ingestion may result in obstruction when material hardens. Irritating to mouth, throat and stomach.

Effects Of Overexposure - Chronic Hazards: NOTICE: Reports have associated repeated and prolonged occupational

overexposure to solvents with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Inhalation of dust may result in pulmonary and respiratory damages.

The International Agency for Research on Cancer (IARC) has determined that crystalline silica in the form of quartz or cristobalite that is inhaled from occupational sources is carcinogenic to humans (Group 1- carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. The National Toxicology Program (NTP) classifies respirable crystalline silica as "known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (Group A2).
Breathing dust containing respirable crystalline silica may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects: Excessive inhalation of respirable dust can cause pneumoconiosis, a respiratory disease, which can result in delayed, progressive, disabling and sometimes fatal lung injury. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Smoking exacerbates this disease. Individuals with pneumoconiosis are predisposed to develop tuberculosis. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: If dry sanded, asthma and asthma-like conditions may worsen from prolonged or repeated exposure to dust.

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP
14808-60-7	Quartz	Suspected human carcinogen.	Not Listed.	Carcinogenic to humans.	Known To Be Human Carcinogen.
13463-67-7	Titanium dioxide	Not Listed.	Not Listed.	Possibly carcinogenic to humans.	Not Listed.
1333-86-4	Carbon black	Confirmed animal carcinogen with unknown relevance to humans.	Not Listed.	Possibly carcinogenic to humans.	Not Listed.

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
Limestone	1317-65-3	60-100
Soya oil	8001-22-7	3-7
Talc (non-asbestiform)	14807-96-6	3-7
Petroleum distillates	64741-88-4	1-5
Iron Oxide	1332-37-2	0.5-1.5
Quartz	14808-60-7	0.1-1.0
Titanium dioxide	13463-67-7	0.1-1.0
Carbon black	1333-86-4	0.1-1.0

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: If skin irritation persists, call a physician.

First Aid - Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: None.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Alcohol, Carbon Dioxide, Dry Chemical, Foam

Unusual Fire And Explosion Hazards: None known.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Scrape up dried material and place into containers.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! Use in well ventilated area. Provide fresh air such that chemical odors cannot be detected during use and while drying. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage: Keep containers tightly closed. Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Limestone	1317-65-3	10 MGM3	N.E.	N.E.	5 MGM3 (respirable fraction)	N.E.	N.E.	No
Soya oil	8001-22-7	N.E.	N.E.	N.E.	5 MGM3	N.E.	N.E.	No
Talc (non-asbestiform)	14807-96-6	2 MGM3	N.E.	N.E.	5 MGM3	N.E.	N.E.	No
Petroleum distillates	64741-88-4	5 MGM3	10 MGM3	N.E.	500 PPM	N.E.	N.E.	No
Iron Oxide	1332-37-2	10 MGM3	N.E.	N.E.	5 MGM3	N.E.	N.E.	No
Quartz	14808-60-7	0.025 MGM3	N.E.	N.E.	10/(%SiO2 + 2) MGM3	N.E.	N.E.	No
Titanium dioxide	13463-67-7	10 MGM3	N.E.	N.E.	15 MGM3	N.E.	N.E.	No
Carbon black	1333-86-4	3 MGM3	N.E.	N.E.	3.5 MGM3	N.E.	N.E.	No

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Exposure Notes:

The talc (CAS number 14807-96-6) within this product naturally contains a non-fibrous tremolite (CAS number 14567-73-8), non-fibrous antigorite (CAS number 12135-86-3), and non-fibrous anthophyllite (CAS number 17068-78-9). Refer to 29 CFR 1910.1000 Table Z3 for the permissible exposure limits associated with non-fibrous talc and these naturally occurring incidental constituents. 14808-60-7 The 2002 ACGIH Threshold Limit Values for Chemical Substances and Physical Agents lists the median Respirable Particulate Mass (RPM) point for crystalline silica at 4.0 microns in terms of the particle's aerodynamic diameter.

The TLVs for crystalline silica represent the respirable fraction.

OSHA PEL TWA for Quartz is calculated using the following formula: 10 mg/m3/(% SiO2 + 2). Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size selector with the following characteristics.

Aerodynamic diameter (unit density sphere)	Percent passing selector
2	90
2.5	75
3.5	50
5.0	25
10	0

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Provide sufficient general and/or local exhaust ventilation to maintain exposure below recommended exposure limit.

Respiratory Protection: A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. No personal respiratory protective equipment normally required.
National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m3) as determined by a full shift sample up to 10-hour work shift.

Skin Protection: Wear gloves with repeated or prolonged use.

Eye Protection: Safety glasses with side-shields.

Other protective equipment: No special protective equipment required.

Hygienic Practices: Launder clothing before reuse.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Slight	**Odor Threshold:**	Not Established
Color:	Colored	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	2.16 - 2.19
Freeze Point:	Not Established	**pH:**	Not Established
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Paste	**Flammability:**	Non-Flammable
Flash Point, F:	Greater than 200	**Method:**	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Determined	**Upper Explosive Limit, %:**	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50
8001-22-7	Soya oil	16500mg/kg	----------
1333-86-4	Carbon black	Rat:>15400 mg/kg	----------

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): None.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated.	**Packing Group:**	N.A.
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	N.A.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

None

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

None

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 0	Flammability: 1	Reactivity: 0	Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 42 lb/gal: 0.4 wt:wt%: 1.9

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 0.6

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable	ACGIH – American Conference of Governmental Industrial Hygienists
N.E. – Not Established	SARA – Superfund Amendments and Reauthorization Act of 1986
N.D. – Not Determined	NJRTK – New Jersey Right-to-Know Law
VOC – Volatile Organic Compound	OSHA – Occupational Safety and Health Administration
PEL – Permissible Exposure Limit	HMIS – Hazardous Materials Identification System
TLV – Threshold Limit Value	NTP – National Toxicology Program
CEIL – Ceiling Exposure Limit	STEL – Short Term Exposure Limit
LD50 – Lethal Dose 50	LC50 – Lethal Concentration 50
F – Degree Fahrenheit	MSDS – Material Safety Data Sheet
C – Degree Celsius	CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: Weldwood Original Contact Cement Bottle
Product UPC Number: 070798001022, 070798001053
Product Use/Class: Contact Cement
Manufacturer: **DAP Products Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 07/18/2013
Supersedes: 08/13/2001
MSDS Number: 00030202001

Section 2 - Hazards Identification

Emergency Overview: A(n) tan liquid product with a strong solvent odor. DANGER! Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Store away from caustics and oxidizers. Keep container closed and away from heat, sparks, and open flame. Vapors may be harmful if inhaled. Harmful or fatal if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Aspiration may cause pulmonary edema and pneumonitis. Irritating to eyes, respiratory system and skin. May affect the brain or nervous system causing dizziness, headache or nausea. Avoid breathing vapors. Prolonged or repeated inhalation of solvent vapors may cause irregular heartbeat. Use only with adequate ventilation. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation. Signs and symptoms may include: pain, tears, swelling, redness and blurred vision.

Effects Of Overexposure - Skin Contact: May cause skin irritation. Prolonged and repeated skin contact may cause dermatitis, drying and defatting due to the solvent properties.

Effects Of Overexposure - Inhalation: Vapors may be harmful if inhaled. Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract. Inhalation of vapors in high concentration may cause shortness of breath. Prolonged, repeated or high exposures may cause central nervous system depression leading to headaches, nausea, drowsiness, dizziness, and possibly narcosis. In extreme cases, may cause loss of consciousness. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Effects Of Overexposure - Ingestion: Harmful or fatal if swallowed. May cause gastrointestinal disturbances with dizziness and central nervous system depression. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. If ingested, may cause depressed respiration. Aspiration hazard if swallowed. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis, which can be fatal.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause skin, respiratory, kidney and liver damage. NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Overexposure or misuse of toluene can cause liver, kidney, and brain damage as well as cardiac abnormalities.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

Medical Conditions which May be Aggravated by Exposure: Pre-existing eye, skin and pulmonary disorders may be aggravated by exposure to this product.

Carcinogenicity:

None

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
Toluene	108-88-3	15-40
Acetone	67-64-1	15-40
Light aliphatic solvent naphtha	64742-89-8	7-13
n-Heptane	142-82-5	5-10
Methylcyclohexane	108-87-2	0.5-1.5

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: Wash skin with soap and water for 15 minutes. Get medical aid if symptoms persist. Remove and wash contaminated clothing. To remove from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. DO NOT try to peel the solidified material from the skin or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin. Flush exposed area with water while removing contaminated clothing. Get medical attention if irritation persists.

First Aid - Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
NOTE: Only trained personnel should administer artificial respiration or give oxygen.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard if swallowed. Potential danger from aspiration must be weighed against possible oral toxicity when deciding whether to induce vomiting. Preexisting disorders of the following organs (may be aggravated by exposure to this material: skin, lungs (for example, asthma-like conditions). Individuals with preexisting heart disorders may be more susceptible to arrhythmias (irregular heartbeat) if exposed to high concentrations of this material.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Unusual Fire And Explosion Hazards: Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Vapors may form explosive mixtures with air. Eliminate sources of ignition: h electrical equipment, sparks and flames. Containers may explode if exposed to extreme heat. Empty containers retain product residue (liquid and/or vapor). Vapor can ignite potentially causing an explosion.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Immediately eliminate sources of ignition. Dike to prevent entering any sewer or waterway. Transfer liquid to a holding container. Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Flammable liquid. Avoid heat, sparks and open flames. Keep away from open flames, hot surfaces and sources of ignition. Use in well ventilated area. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Avoid breathing vapor and contact with eyes, skin and clothing. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal. Construction and repair activities can adversely affect indoor air quality. Consult with occupants or a representative (i.e. maintenance, building manager, industrial hygienist, or safety officer) to determine ways to minimize impact.

Storage: Store away from sources of ignition and heat. Keep containers tightly closed. Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Toluene	108-88-3	20 PPM	N.E.	N.E.	200 PPM	N.E.	300 PPM	Yes
Acetone	67-64-1	500 PPM	750 PPM	N.E.	1000 PPM	N.E.	N.E.	No
Light aliphatic solvent naphtha	64742-89-8	300 PPM	N.E.	N.E.	300 PPM	400 PPM	N.E.	No
n-Heptane	142-82-5	400 PPM	500 PPM	N.E.	500 PPM	N.E.	N.E.	No
Methylcyclohexane	108-87-2	400 PPM	500 PPM	N.E.	500 PPM	N.E.	N.E.	No

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Exposure Notes:

None

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Use only in well-ventilated areas. Vapors are heavier than air and may spread along floors. Check all low areas for presence of vapor. Provide sufficient general and/or local exhaust ventilation to maintain exposure below recommended exposure limit. The following exposure control techniques may be used to effectively minimize employee exposure: local exhaust v ation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment and prudent work practices. These techniques may not necessarily address all issues pertaining to your operations. We, therefore, recommend that you consult with experts of your choice to determine whether or not your programs are adequate.

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection: Solvent-resistant gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Provide eyewash and solvent impervious apron if body contact may occur.

Hygienic Practices: Remove and wash contaminated clothing before re-use.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Strong Solvent	**Odor Threshold:**	Not Established
Color:	Tan	**Evaporation Rate:**	Faster Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	0.85
Freeze Point:	Not Established	**pH:**	Not Applicable
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Liquid	**Flammability:**	Extremely Flammable
Flash Point, F:	-50 F	**Method:**	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Determined	**Upper Explosive Limit, %:**	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Incompatibility: Incompatible with strong bases and oxidizing agents. Avoid contact with strong acids and oxidizable organic materials in the presence of heat. Incompatible with open flames, hot surfaces and sources of ignition.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50
108-88-3	Toluene	----------	Rat:49 gm/m3/4H
67-64-1	Acetone	----------	Rat:50100 mg/m3/8H
142-82-5	n-Heptane	----------	Rat:103 gm/m3/4H
108-87-2	Methylcyclohexane	Mice:2250 mg/kg	MIC:41500 mg/m3/2H

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste. Liquids cannot be disposed of in a landfill. Discarded material should be incinerated at a permitted facility. Do not re-use empty containers.

EPA Waste Code if Discarded (40 CFR Section 261): D001.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Adhesives, containing a flammable liquid	**Packing Group:**	III
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	3 Flammable liquid	**DOT UN/NA Number:**	UN1133

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard, Fire Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Toluene	108-88-3

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name	CAS Number
n-Heptane	142-82-5

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Polychlorinated Rubber	Proprietary
Phenolic resin	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Polychlorinated Rubber	Proprietary
Phenolic resin	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 2 Flammability: 3 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 646.5 lb/gal: 5.40 wt:wt%: 53.8

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 65.7

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable	ACGIH – American Conference of Governmental Industrial Hygienists
N.E. – Not Established	SARA – Superfund Amendments and Reauthorization Act of 1986
N.D. – Not Determined	NJRTK – New Jersey Right-to-Know Law
VOC – Volatile Organic Compound	OSHA – Occupational Safety and Health Administration
PEL – Permissible Exposure Limit	HMIS – Hazardous Materials Identification System
TLV – Threshold Limit Value	NTP – National Toxicology Program
CEIL – Ceiling Exposure Limit	STEL – Short Term Exposure Limit
LD50 – Lethal Dose 50	LC50 – Lethal Concentration 50
F – Degree Fahrenheit	MSDS – Material Safety Data Sheet
C – Degree Celsius	CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and

not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

DAP

Material Safety Data Sheet

24 Hour Emergency Phone Numbers:
Medical: 1-800-327-3874
1-513-558-5111
Transportation:
1-800-535-5053
1-352-323-3500

NOTE: National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.
Esta hoja de datos de la seguridad de los materiales está disponible en francés canadiense y en español a su solicitud.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: DAP DYNAFLEX 230 – ALL COLORS
Revision Date: 04/18/2005
Product UPC Number: 05998 18275 18280 18286 18288 18316 74096 18412 18418 18420 18607 74084 74086 74108
Supercedes: 08/30/2002
Product Use/Class: Latex Caulk
MSDS Number: 00010001001
Manufacturer: **DAP Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Section 2 - Composition / Information On Ingredients

Chemical Name	CASRN	WT%	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Calcium carbonate	1317-65-3	30-60	10 MGM3	N.E.	N.E.	5 MGM3	N.E.	N.E.	No
Di(C7&C9) ester branched & linear	PHTHALATE ESTER	1-5	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Titanium dioxide	13463-67-7	1-5	10 MGM3	N.E.	N.E.	15 MGM3	N.E.	N.E.	No
Ethylene glycol	107-21-1	0.5-1.5	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No
Silica, crystalline	14808-60-7	0.1-1.0	0.05 MGM3	N.E.	N.E.	(10 ÷ % SiO2) / 2 MGM3	N.E.	N.E.	No
Carbon Black	1333-86-4	0.0-1.5	3.5 MGM3	N.E.	N.E.	3.5 MGM3	N.E.	N.E.	No
Ammonia	7664-41-7	<0.010	25 PPM	35 PPM	N.E.	50 PPM	N.E.	N.E.	No
Formaldehyde	50-00-0	<0.03	N.E.	N.E.	0.3 PPM	0.75 PPM	2 PPM	N.E.	No
Ethyl acrylate	140-88-5	<0.02	5 PPM	15 PPM	N.E.	25 PPM	N.E.	N.E.	Yes
Acetaldehyde	75-07-0	<0.003	N.E.	N.E.	25 PPM	200 PPM	N.E.	N.E.	No
Acrylonitrile	107-13-1	<0.0004	2 PPM	N.E.	N.E.	2 PPM	10 PPM	N.E.	Yes

Exposure Notes:

107-13-1 Acrylonitrile is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1045. Medical surveillance information regarding this substance may be found in Appendix C to

29 CFR 1910.1045.

50-00-0 Formaldehyde is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1048. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1048.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices

Section 3 - Hazards Identification

Emergency Overview: A colored paste with a very slight ammonia odor. WARNING! Harmful if swallowed or absorbed through the skin. May cause eye, skin, nose, throat and respiratory tract irritation. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: Harmful if absorbed through the skin. May cause allergic reaction or sensitization by skin contact. May cause skin irritation and/or dermatitis.

Effects Of Overexposure - Inhalation: May cause irritation of respiratory tract. Prolonged, repeated, or high exposures may cause weakness and depression of the central nervous system. Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Prolonged and repeated skin contact may cause irritation and possibly dermatitis. Repeated or prolonged exposure may cause respiratory system damage.

Overexposure may cause kidney, cardiovascular, skin and liver damage. Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

First Aid - Skin Contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical aid if symptoms persist. Remove and wash contaminated clothing.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If

continued breathing difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: None.

COMMENTS: Call Medical Emergency at 1-800-327-3874 if any irritation or complication arises from any of the above routes of entry.

Section 5 - Fire Fighting Measures

Flash Point, F: >200 °F
Method: (Setaflash Closed Cup)

Lower Explosive Limit, %: Not Established
Upper Explosive Limit, %: Not Established

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: No special protective measures against fire required.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use absorbent material or scrape up dried material and place in container.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Do not breathe vapors. Use only with adequate ventilation. Wash thoroughly after handling. Avoid breathing vapor and contact with eyes, skin and clothing. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions.

Storage: Close container after each use. Store containers away from excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Ensure adequate ventilation, especially in confined areas. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection: Rubber gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Very Slight Ammonia	**Odor Threshold:**	Not Established
Appearance:	Colored	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.49
Freeze Point:	Not Established	**pH:**	Between 7.0 and 12.0
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Paste		

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established

Product LC50: Not Established

CASRN	Chemical Name	LD50	LC50	WT%
PHTHALATE ESTER	Ester Branched & Linear(C7&C9)	Oral Rat: 10 mg/kg	----------	1-5
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg	0.5-1.5
7664-41-7	Ammonia	----------	Rat:2000 ppm/4H	<0.010
50-00-0	Formaldehyde	----------	Rat:203 mg/m3	<0.03
140-88-5	Ethyl acrylate	----------	Rat:1414 ppm/4H	<0.02
75-07-0	Acetaldehyde	----------	Rat:13300 ppm/4H	<0.003
107-13-1	Acrylonitrile	Oral Rat:78 mg/kg	Rat:425 ppm/4H	<0.0004

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP	WT%
13463-67-7	Titanium dioxide	-----	-----	Classification not possible from current data.	-----	1-5
14808-60-7	Silica, crystalline	Suspected human carcinogen.	-----	-----	Known carcinogen.	0.1-1.0
50-00-0	Formaldehyde	Suspected human carcinogen.	Potential cancer hazard.	Human carcinogen.	Anticipated carcinogen.	<0.03
140-88-5	Ethyl acrylate	-----	-----	Possible carcinogen.	-----	<0.02

75-07-0	Acetaldehyde	Confirmed animal carcinogen with unknown relevance to humans.	-----	Possible carcinogen.	Anticipated carcinogen.	<0.003
107-13-1	Acrylonitrile	Confirmed animal carcinogen with unknown relevance to humans.	Cancer hazard.	Possible carcinogen.	Anticipated carcinogen.	<0.0004
79-06-1	Acrylamide	Confirmed animal carcinogen with unknown relevance to humans.	-----	Probable carcinogen.	Anticipated carcinogen.	<0.0001

Significant Data with Possible Relevance to Humans: This product contains trace amounts of acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a) (2) (ii). Acrylonitrile has been classified by IARC as possibly carcinogenic to humans, by OSHA as carcinogenic and by NTP as reasonably anticipated to be a human carcinogen.

This product contains trace amounts of free formaldehyde. OSHA and NTP identify formaldehyde as a potential carcinogen. IARC identifies formaldehyde as a human carcinogen. Formaldehyde has been shown to cause mutations in a variety of in-vitro test systems, the significance of which to humans is unknown. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limits. Maintain adequate ventilation to prevent exposure above current OSHA / ACGIH exposure limits. Workplace monitoring of the air to define formaldehyde exposure levels may be necessary.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	**Packing Group:**	N.A.
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	N.A.

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and

312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number	WT%
Ethylene glycol	107-21-1	0.5-1.5

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

U.S. State Regulations

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number	WT%
Non-Hazardous Polymer	Proprietary	15-40
Water	7732-18-5	10-30

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number	WT%
Non-Hazardous Polymer	Proprietary	15-40
Water	7732-18-5	10-30

California Proposition 65:

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

Chemical Name	CAS Number	Definition	Date Listed	WT%
Silica, crystalline	14808-60-7	Carcinogenic.	Listed: October 1, 1988	0.1-1.0
Formaldehyde	50-00-0	Carcinogenic.	Listed: January 1, 1988	<0.03
Ethyl acrylate	140-88-5	Carcinogenic.	Listed: July 1, 1989	<0.02
Acetaldehyde	75-07-0	Carcinogenic.	Listed: April 1, 1988	<0.003
Acrylonitrile	107-13-1	Carcinogenic.	Listed: July 1, 1987	<0.0004
Acrylamide	79-06-1	Carcinogenic.	Listed: January 1, 1990	<0.0001

Warning: The following ingredients present in the product are known to the State of California to cause birth defects or other reproductive harm:

None

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 1 Reactivity: 0 Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR: 23.5 LB/GAL: 0.2 WT%: 1.132

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable
N.E. – Not Established
N.D. – Not Determined
VOC – Volatile Organic Compound
PEL – Permissible Exposure Limit
TLV – Threshold Limit Value
STEL – Short Term Exposure Limit
LD50 – Lethal Dose 50
F – Degree Fahrenheit
MSDS – Material Safety Data Sheet

ACGIH – American Conference of Governmental Industrial Hygienists
SARA – Superfund Amendments and Reauthorization Act of 1986
NJRTK – New Jersey Right-to-Know Law
OSHA – Occupational Safety and Health Administration
HMIS – Hazardous Materials Identification System
NTP – National Toxicology Program
CEIL – Ceiling Exposure Limit
LC50 – Lethal Concentration 50
C – Degree Celsius
CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name:	Kwik Foam Heavy Duty Polyurethane Sealant	**Revision Date:**	12/16/2013
Product UPC Number:	070798182301, 070798182325	**Supersedes:**	10/11/2011
Product Use/Class:	Foam Sealant	**MSDS Number:**	00077005004
Manufactured for:	**DAP Products Inc.** **2400 Boston Street Suite 200** **Baltimore, MD 21224-4723** **888-327-8477 (non-emergency matters)**		

Section 2 - Hazards Identification

Emergency Overview: A(n) tan thick liquid product with a slight odor. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. DANGER! Harmful or fatal if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Harmful if inhaled. May cause eye, skin, nose, throat and respiratory tract irritation. May cause sensitization by inhalation and skin contact. Contents under pressure. Do not puncture can. Exposure to temperatures above 120 'F may cause can to rupture. The primary adverse health effects of this product are related to the Polymeric Isocyanate (MDI) component. Therefore, adequate ventilation should be provided to avoid exceeding the exposure limits of these components (See Section 8). The likelihood of exceeding these limits are low due to the low concentration of vapor produced during normal use. However, if used indoors, mechanical ventilation or exhaust should be provided during use and until product is cured. MDI vapor can irritate the respiratory tract causing runny nose, sore throat, coughing and reduce lung function. This product has strong adhesive-like characteristics and will adhere aggressively to skin and other surfaces. If accidental contact occurs, follow the appropriate first-aid procedure described in Section 4 of this MSDS.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: Signs and symptoms may include: pain, tears, swelling, redness and blurred vision. Mist and vapors may cause eye irritation. Direct eye contact may cause irritation. Foam contact can cause physical damage due to adhesive character.

Effects Of Overexposure - Skin Contact: Harmful: possible risk of irreversible effects in contact with skin. May cause sensitization by skin contact. This product has strong adhesive-like characteristics and will adhere aggressively to skin and other surfaces. If accidental contact occurs, follow the appropriate first-aid procedure described in Section 4 of this MSDS. Prolonged and repeated skin contact may cause dermatitis, drying and defatting due to the solvent properties.

Effects Of Overexposure - Inhalation: Vapors may be irritating to eyes, nose, throat, and lungs. Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. Product is irritating to the nose, throat, and respiratory tract. May cause central nervous system depression, headache, dizziness, cardiac arrhythmia, nausea, and vomiting. In extreme cases, drowsiness, loss of consciousness, and possibly death, may occur. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Effects Of Overexposure - Ingestion: Harmful or fatal if swallowed. If ingested, may cause depressed respiration. May cause irritation of mucous membranes in the mouth and digestive tract. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis, which can be fatal.

Effects Of Overexposure - Chronic Hazards: Prolonged or repeated inhalation of solvent vapors may cause irregular heartbeat. NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: Asthma and asthma-like conditions may worsen from prolonged and repeated exposure.

Carcinogenicity:

None

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
Polymeric diphenylmethane diisocyanate	Proprietary	30-60
Alkanes, chloro-	61788-76-9	10-30
Isobutane	75-28-5	7-13
Dimethyl ether	115-10-6	5-10
4,4'-Methylenediphenyl diisocyanate (MDI)	101-68-8	3-7
Propane	74-98-6	0.5-1.5
n-Butane	106-97-8	0.5-1.5

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Use a rag to remove excess foam from skin and remove contaminated clothing. Use of a solvent, such as acetone (nail polish remover) or mineral spirits, may help in removing uncured foam residue from clothing or other surfaces (avoid eye contact). Cured foam may be physically removed by persistent washing with soap and water. If irritation develops, use mild skin cream. If irritation persists, obtain medical attention.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately. If conscious, drink plenty of water. Never give anything by mouth to an unconscious person.

Note to Physician: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution only in situations of emergency life support.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Heating may cause an explosion. Eliminate sources of ignition: heat, electrical equipment, sparks and flames. Store away from caustics and oxidizers.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.
Cool containers and/or tanks with spray water.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use personal protective equipment as necessary. Use absorbent material or scrape up dried material and place in container. Uncured product is very sticky, so carefully remove the bulk of the foam by scraping it up and then immediately remove residue with a rag and solvent such as polyurethane cleaner, mineral spirits, acetone (nail polish remover), paint thinner, etc. Once the product has cured, it can only be removed physically by scraping, buffing, etc. Dispose as plastic waste (foam plastic) in accordance with all applicable guidelines and regulations.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Keep away from open flames, hot surfaces and sources of ignition. Use in well ventilated area. Avoid breathing vapor and contact with eyes, skin and clothing. Avoid contact with skin and eyes. Will burn if involved in a fire. Containers may explode in the heat of a fire. Highly flammable vapors are heavier than air and may accumulate in low areas. Flash back along vapor trail is possible. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Make sure nozzle is directed away from yourself prior to discharge.

Storage: Keep away from heat and sources of ignition. Avoid excessive heat and freezing. Protect material from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Polymeric diphenylmethane diisocyanate	Proprietary	0.005 PPM	N.E.	N.E.	N.E.	N.E.	0.2 MGM3	No
Alkanes, chloro-	61788-76-9	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Isobutane	75-28-5	1000 PPM	N.E.	N.E.	N.E.	N.E.	N.E.	No
Dimethyl ether	115-10-6	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
4,4'-Methylenediphenyl diisocyanate (MDI)	101-68-8	0.005 PPM	N.E.	N.E.	N.E.	N.E.	0.2 MGM3	No
Propane	74-98-6	1000 PPM	N.E.	N.E.	1000 PPM	N.E.	N.E.	No
n-Butane	106-97-8	1000 PPM	N.E.	N.E.	N.E.	N.E.	N.E.	No

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits. Vapors are heavier than air and may spread along floors. Check all low areas for presence of vapor. Provide sufficient general and/or local exhaust ventilation to maintain exposure below recommended

exposure limit. Highly flammable vapors are heavier than air and may accumulate in low areas. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. Refer to OSHA Standards 29 CFR 1910.94 and 29 CFR 1910.107.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. No personal respiratory protective equipment normally required. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear and appropriate, properly fitted respirator (NIOSH approved) during and after application.

Skin Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Wear solvent impervious gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Remove and wash contaminated clothing before re-use.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Slight	**Odor Threshold:**	Not Established
Color:	Tan	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.20 - 1.20
Freeze Point:	Not Established	**pH:**	Not Established
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Thick Liquid	**Flammability:**	Level II Aerosol
Flash Point, F:	Not Established.	**Method:**	(Not Applicable)
Lower Explosive Limit, %:	Not Determined	**Upper Explosive Limit, %:**	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts). Excessive heat and freezing.

Incompatibility: Alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts).

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50

75-28-5	Isobutane	----------	Rat:57 pph/15M

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): D001.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Aerosols, flammable	**Packing Group:**	N.A.
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	2.1 Flammable gas	**DOT UN/NA Number:**	UN1950

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard, Fire Hazard, Pressurized Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Polymeric diphenylmethane diisocyanate	Proprietary
4,4'-Methylenediphenyl diisocyanate (MDI)	101-68-8

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

DIESEL MATE

CUSTOMER: 334286
ORDER #: 462855
BATCH #: 112570019
STICKER #: 112570269
ZONE #:107
BA[illegible]E #:1Z9594500300985094
PRODUCT NAME: DIESEL MATE 2000 ALL SEASONS (2X2.5 GAL)

Material Safety Data Sheet: DIESEL MATE 2000 ALL SEASONS (2X2.5 GAL)

Supercedes Date Not applicable
Issuing Date 06/03/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name DIESEL MATE 2000 ALL SEASONS (2X2.5 GAL)
Recommended use Fuel additive
Information on Manufacturer
CERTIFIED LABS, DIV. OF NCH CORP.
BOX 152170
IRVING, TEXAS 75015

Product Code 959J
Chemical nature Petroleum distillates
Emergency Telephone Number
CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
WARNING
Combustible liquid and vapor
May be harmful if inhaled
Causes skin irritation
Causes eye irritation
May cause allergic skin reaction
May be harmful if swallowed

Color Amber - Orange
Physical State Liquid
Odor Petroleum distillates

Potential Health Effects
Principle Route of Exposure Inhalation, Skin contact, Eye contact.
Primary Routes of Entry Inhalation, Skin Absorption.
Acute Effects
Eyes Causes eye irritation.
Skin Causes skin irritation. May cause allergic skin reaction. May be absorbed through the skin in harmful amounts. Blood disorder may occur after prolonged skin contact.
Inhalation May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Blood disorder may occur after prolonged inhalation. Methemoglobinemia. Lowered blood pressure.
Ingestion Irritating to mucous membranes. Causes headache, drowsiness or other effects to the central nervous system. Blood disorder may occur after ingestion. Methemoglobinemia. Lowered blood pressure. Bloody urine. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.
Chronic Toxicity Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact. Contains a known or suspected carcinogen. Suspect reproductive hazard - contains material which may injure unborn child.
Target Organ Effects Blood, Central nervous system, Peripheral Nervous System (PNS), Kidney, Liver, Respiratory system, Skin, Bone Marrow, Ears, Cardiovascular system.
Aggravated Medical Conditions Kidney disorders, Liver disorders, Blood disorders, Neurological disorders, Skin disorders, Respiratory disorders, Heart disease.
Potential Environmental Effects See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
2-Ethylhexyl nitrate	27247-96-7
Pseudocumene	95-63-6
Naphthalene	91-20-3
1,3,5-Trimethylbenzene	108-67-8
Xylenes (o-, m-, p- isomers)	1330-20-7
Cumene	98-82-8
Ethyl benzene	100-41-4

4. FIRST AID MEASURES

General Advice Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.
Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.
Skin Contact Get medical attention if irritation develops and persists. Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Wash contaminated clothing before re-use.
Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Notes to physician Since reversion of methaemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures. Aspiration hazard if swallowed - can enter lungs and cause damage.

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
2-Ethylhexyl nitrate	> 2000 mg/kg (Rat)	> 4820 mg/kg (Rabbit)	> 14 mg/L (Rat) 4 h > 4.6 mg/L (Rat) 1 h	no data available	no data available
Pseudocumene	3400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	18 g/m^3 (Rat) 4 h	no data available	no data available
Naphthalene	490 mg/kg (Rat)	> 20 g/kg (Rabbit) > 2500 mg/kg (Rat)	> 340 mg/m^3 (Rat) 1 h	no data available	no data available
1,3,5-Trimethylbenzene	5000 mg/kg (Rat)	no data available	24 g/m^3 (Rat) 4 h	no data available	no data available
Xylenes (o-, m-, p- isomers)	4300 mg/kg (Rat)	> 1700 mg/kg (Rabbit)	47635 mg/L (Rat) 4 h 5000 ppm (Rat) 4 h	no data available	no data available
Cumene	1400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	39000 mg/m^3 (Rat) 4 h	no data available	no data available
Ethyl benzene	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
2-Ethylhexyl nitrate	no data available	no data available	no data available	no data available	CNS
Pseudocumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears, heart
Naphthalene	no data available	skin sensitization	no data available	no data available	eyes, blood, liver, kidneys, skin, CNS, bone marrow
1,3,5-Trimethylbenzene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears, heart
Xylenes (o-, m-, p- isomers)	no data available	no data available	yes	no data available	heart, blood, lung, CNS, PNS, respiratory system, ears, liver, kidney
Cumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin
Ethyl benzene	no data available	no data available	yes	no data available	eyes, CNS, respiratory system, skin

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
2-Ethylhexyl nitrate	not applicable	not applicable	not applicable	X	not applicable
Pseudocumene	not applicable	not applicable	not applicable	not applicable	not applicable
Naphthalene	not applicable	Group 2B	Reasonably Anticipated	X	not applicable
1,3,5-Trimethylbenzene	not applicable	not applicable	not applicable	not applicable	not applicable
Xylenes (o-, m-, p- isomers)	not applicable	not applicable	not applicable	not applicable	not applicable
Cumene	not applicable	not applicable	not applicable	not applicable	yes - CA Prop 65 List
Ethyl benzene	A3	Group 2B	not applicable	yes	not applicable

12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
2-Ethylhexyl nitrate	no data available	LC50 116 mg/L Salmo gairdneri 48 h	EC50 = 100 mg/L 15 min	no data available	4.14
Pseudocumene	no data available	LC50 7.19-8.28 mg/L Pimephales promelas 96 h	no data available	EC50 6.14 mg/L 48 h	3.63
Naphthalene	EC50 0.4 mg/L Skeletonema costatum 72 h	LC50 0.91-2.82 mg/L Oncorhynchus mykiss 96 h LC50 1.6 mg/L Oncorhynchus mykiss 96 h LC50 1.99 mg/L Pimephales promelas 96 h LC50 31.0265 mg/L Lepomis macrochirus 96 h LC50 5.74-6.44 mg/L Pimephales promelas 96 h	EC50 = 0.93 mg/L 30 min EC50 > 20 mg/L 18 h	EC50 1.09 - 3.4 mg/L 48 h EC50 1.96 mg/L 48 h LC50 2.16 mg/L 48 h	3.3
1,3,5-Trimethylbenzene	no data available	LC50 3.48 mg/L Pimephales promelas 96 h	no data available	EC50 50 mg/L 24 h	N/A
Xylenes (o-, m-, p- isomers)	no data available	LC50 13.1-16.5 mg/L Lepomis macrochirus 96 h LC50 13.4 mg/L Pimephales promelas 96 h LC50 13.5-17.3 mg/L Oncorhynchus mykiss 96 h LC50 19 mg/L Lepomis macrochirus 96 h LC50 2.661-4.093 mg/L Oncorhynchus mykiss 96 h LC50 23.53-29.97 mg/L Pimephales promelas 96 h LC50 30.26-40.75 mg/L Poecilia reticulata 96 h LC50 7.711-9.591 mg/L Lepomis macrochirus 96 h LC50 780 mg/L Cyprinus carpio 96 h LC50 > 780 mg/L Cyprinus carpio 96 h	EC50 = 0.0084 mg/L 24 h	LC50 0.6 mg/L 48 h EC50 3.82 mg/L 48 h	2.77 - 3.15
Cumene	EC50 2.6 mg/L Pseudokirchneriella subcapitata 72 h	LC50 2.7 mg/L Oncorhynchus mykiss 96 h LC50 4.8 mg/L Oncorhynchus mykiss 96 h LC50 5.1 mg/L Poecilia reticulata 96 h LC50 6.04-6.61 mg/L Pimephales promelas 96 h	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	EC50 0.6 mg/L 48 h EC50 7.9 - 14.1 mg/L 48 h	3.55
Ethyl benzene	EC50 1.7 - 7.6 mg/L Pseudokirchneriella subcapitata 96 h EC50 2.6 - 11.3 mg/L Pseudokirchneriella subcapitata 72 h EC50 4.6 mg/L Pseudokirchneriella subcapitata 72 h EC50 > 438 mg/L Pseudokirchneriella subcapitata 96 h	LC50 11.0-18.0 mg/L Oncorhynchus mykiss 96 h LC50 32 mg/L Lepomis macrochirus 96 h LC50 4.2 mg/L Oncorhynchus mykiss 96 h LC50 7.55-11 mg/L Pimephales promelas 96 h LC50 9.1-15.6 mg/L Pimephales promelas 96 h LC50 9.6 mg/L Poecilia reticulata 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 mg/L 48 h	3.118

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B3 Combustible liquid, D2A Very toxic materials, D2B Toxic materials.

16. OTHER INFORMATION

Prepared By	Mike McDowell
Supercedes Date	Not applicable
Issuing Date	06/03/2011
Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

CERTIFIED LABS, DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Material Safety Data Sheet

Industrial Degreaser Concentrate

1. Product and company identification

Product name	Industrial Degreaser Concentrate	**In case of emergency**	1-800-843-6174
Code	1262641	**Validation date**	8/5/2010.
Material uses	Concentrated degreaser for industrial and residential use.	**Print date**	8/5/2010.
Supplier	Ace Hardware Corp. 2200 Kensington Court Oak Brook, IL 60523-2100 Phone: 630-990-6600	**Responsible name**	**Regulatory Affairs Department**

Hazardous Material Information System (U.S.A.)

Health	3	HAZARD RATING
Flammability	0	4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Insignificant
Physical hazards	1	
Personal protection	C	

A = Goggles B = Goggles & Gloves C = Goggles, Gloves & Apron

2. Hazards identification

Emergency overview CAN CAUSE TARGET ORGAN DAMAGE.

Can cause target organ damage.

Routes of entry Ingestion. Inhalation. Skin contact. Eye contact.

Potential acute health effects due to overexposure

Inhalation May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion May cause burns to mouth, throat and stomach.

Skin Corrosive to the skin. May cause severe burns.

Corrosive to eyes. May cause severe burns.

Potential chronic health effects due to overexposure

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

See toxicological information (section 8)

3. Composition/information on ingredients

Name	CAS number	%
tetrasodium ethylenediaminetetraacetate	64-02-8	1 - 5

4. First aid measures

Eye contact Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation Move exposed person to fresh air. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention immediately.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

DEWALT IMPACT DRILL

ITEM: 2AEV5 - Impact Driver Kit 18VDC 1/4 In Hex

MSDS: B2887 **ORDER: 0059727579** **LP NUMBER: U839174264**

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - B2887

Associated Grainger Items
6004[illegible]0250817, 6272271, 1XGN4, 1XGN5, 3CRK8, 3FRN3, 6042941, 6354542
6361591, 6347248, 2XY55, 2XY56, 2XY57, 1GEA4, 1GEA5, 1GEA6, 1GEA7, 1GEA8
1GEA9, 1GEB1, 1GEB2, 1GEB3, 1GEB4, 1GEB5, 1GEB6, 1GEB7, 1GEB8, 1GEB9, 1GEC1
1GEC2, 1GEC3, 1GEC4, 1GEC5, 1GEC6, 1GEC7, 1GEC8, 1GEC9, 1GED1, 1GED4, 1EC28
1EC29, 1EC30, 1EC31, 1EC32, 1EZ37, 1EZ38, 1EZ39, 1PX99, 1PZ10, 1PZ11, 1PZ12
1PZ14, 1PZ15, 1PZ16, 1PZ17, 1PZ18, 1PZ19, 1PZ20, 1PZ21, 1PZ22, 1PZ23, 1PZ24
1PZ25, 1PZ26, 1PZ27, 1PZ28, 1RD18, 1RD19, 1VK69, 2NY21, 2NY22, 2NY24, 2NY25
3AB13, 3AB14, 3EB89, 3EB90, 3KA75, 3KA76, 3KA77, 3KA78, 3KA79, 3KA80, 3LA56
3LA57, 3LA58, 3LA75, 3LA76, 3MY90, 3PA28, 3WE97, 3WE98, 3WY80, 48645, 4EU70
4EB26, 4EB27, 4EB28, 4EB29, 4EB30, 4EB31, 4EB32, 4EB33, 4EB34, 4EB35, 4EB36
4EB37, 4EB38, 4EB39, 4EB40, 4EB41, 4EB42, 4EB43, 4EB86, 4EB87, 4EB88, 4EB89
4GA68, 4GA69, 4GA70, 4GA75, 4GA76, 4GA77, 4GA79, 4GA80, 4GD32, 4GD74, 4JB70
4JB71, 4JB76, 4JB81, 4JB82, 4JB83, 4JB84, 4LF47, 4LF48, 4VW99, 4VX20, 4VX21
4VX35, 4WL38, 4YB73, 4YB77, 4YK29, 4YK30, 4YK32, 4YK33, 4YL20, 4YL22, 4YL23
4YL24, 4YL25, 4YL26, 5A190, 5MP39, 5MP74, 5MP77, 5MP80, 5MP81, 5MP82, 5MP83
5MP84, 5MP85, 5MP86, 5ZM44, 5ZM45, 6GD51, 6GD52, 6HD91, 6RM72, 6RM73, 6RM74
6RM75, 6RM76, 6RM77, 6RM78, 6RM79, 6XG84, 6XG85, 6XJ68, 9GPP1, 9GPP2, 9TM35
1AUZ2, 1AUZ3, 1AUZ4, 1PJK8, 6275051, 6354270, 1WXL9, 1WXN1, 1WXN2, 7YR35
7YR36, 7YR37, 7YR38, 7YR39, 7YR40, 7YR41, 2AEU4, 2AEU6, 2AEU7, 2AEU8, 2AEU9
2AEV1, 2AEV3, 2AEV4, 2AEV5, 2AEV7, 2AEV8, 2AEV9, 2AEW1, 2AEW2, 2AEW3, 2HNX5
2HNX6, 2VDJ2, 2VDJ3, 2VDJ4, 2VDJ9, 2RDZ5, 3HFV7, 3HFV8, 3HFV9, 3HFW1, 3HFW2
3HFW3, 3HFW4, 3HFW5, 3HFW6, 3HFW7, 3HFW8, 3HFW9, 3HFX1, 3HFX2, 3HFX3, 3HFX4
3HFX5, 3HFX6, 3HFX7, 3HFX8, 3HFX9, 3HFY1, 3HFY2, 3HFY3, 3EME5

PRODUCT INFORMATION AND DATA SHEET

THIS PRODUCT IS A MANUFACTURED ARTICLE AS DESCRIBED IN 29 CFR 1910.1200 AND IS NOT SUBJECT TO OSHA'S HAZARD COMMUNICATION STANDARD REQUIREMENTS FOR PREPARATION OF MATERIAL SAFETY DATA SHEETS (MSDS).

SANYO BATTERIES
SANYO ENERGY (USA) CORP.
2055 SANYO AVE.
SAN DIEGO, CA 92154

TELEPHONE NO.: (619) 661-4888

WWW.SANYOBATTERIES.COM

MANUFACTURER'S NAME:
SANYO ELECTRIC CO., LTD.
TOKONABE-CHO KASAI-CITY
HYOGO, 675-2332
JAPAN

TELEPHONE NO.: 0790-43-2043

IN CASE OF EMERGENCY CONTACT:
CHEMTREC AT: (800) 424-9300

SECTION I - PRODUCT INFORMATION

PRODUCT: NICKEL CADMIUM BATTERY

DESIGNATED FOR RECHARGE?:
(X) YES
( ) NO

TRADE NAME: CADNICA

CHEMICAL SYSTEM: NICKEL CADMIUM

NOMINAL VOLTAGE: 1.2V

SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

THE INGREDIENTS ARE CONTAINED IN A HERMETICALLY SEALED CASE, DESIGNED TO WITHSTAND TEMPERATURES AND PRESSURES ENCOUNTERED DURING NORMAL USE. AS A RESULT, DURING NORMAL USE, HAZARDOUS MATERIALS ARE FULLY CONTAINED INSIDE THE BATTERY. THE BATTERY SHOULD NOT BE OPENED OR EXPOSED TO HEAT BECAUSE EXPOSURE TO THE FOLLOWING INGREDIENTS CONTAINED WITHIN COULD BE HARMFUL UNDER SOME CIRCUMSTANCES. THE FOLLOWING INFORMATION IS PROVIDED FOR THE USER'S INFORMATION ONLY.

CHEMICAL NAME	CAS NO.	%(1)	PEL	TLV
CADMIUM	7440-43-9	11-26	0.005 TWA(2)	0.05 TWA
CADMIUM HYDROXIDE	21041-95-2	11-26	0.005 TWA	0.05 TWA
NICKEL (POWDER)	7440-02-0	8-17	1 TWA	1 TWA
NICKEL HYDROXIDE	12054-48-7	5-12	1 TWA	1 TWA
POTASSIUM HYDROXIDE	1310-58-3	<3	2 CEILING	2 CEILING
NYLON	N/A	<2	N/A	N/A
STEEL	N/A	12-13	N/A	N/A
OTHER	N/A	<1	N/A	N/A
TOTAL		100		

NOTES:
1). CONCENTRATIONS VARY DEPENDING ON THE STATE OF CHARGE OR DISCHARGE.
2). TWA IS THE TIME WEIGHTED AVERAGE CONCENTRATION OVER AN 8-HOUR PERIOD.

SECTION III - PHYSICAL DATA

CAD

MELTING POINT (DEG. F): 610

BOILING POINT (DEG. F): 1,407

% VOLATILE BY VOLUME:

VAPOR PRESSURE (MMHg):

EVAPORATION RATE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY (H2O): 8.65 @ 77 DEG. F

SOLUBILITY IN WATER: INSOLUBLE

APPEARANCE AND ODOR: SILVER-WHITE, BLUE-TINGED, LUSTROUS METAL

ELECTROLYTE SPECIFIC GRAVITY: 1.29 G/CM3

ELECTROLYTE VISCOSITY: 2.4 MPAS
(*MPAS: MILLI-PASCAL SECOND)

CADMIUM HYDROXIDE:

MELTING POINT (DEG. F):

BOILING POINT (DEG. C):

% VOLATILE BY VOLUME:

VAPOR PRESSURE (MMHg):

EVAPORATION RATE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY (H2O): 4.79

SOLUBILITY IN WATER: PRACTICALLY INSOLUBLE

APPEARANCE AND ODOR: POWDER

NICKEL POWDER:

MELTING POINT (DEG. F): 2,831

BOILING POINT (DEG. F): 5,134

% VOLATILE BY VOLUME:

VAPOR PRESSURE (MMHg):

EVAPORATION RATE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY (H2O): 8.90

SOLUBILITY IN WATER: INSOLUBLE

APPEARANCE AND ODOR: POWDER

NICKEL HYDROXIDE:

MELTING POINT (DEG. F): *

BOILING POINT (DEG. F):

% VOLATILE BY VOLUME:

VAPOR PRESSURE (MMHg):

EVAPORATION RATE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY (H2O):

SOLUBILITY IN WATER: INSOLUBLE

APPEARANCE AND ODOR: APPLE GREEN POWDER

* NOTE: DECOMPOSES ABOVE 392 DEG. F INTO NiO AND H2O.

POTASSIUM HYDROXIDE:

MELTING POINT (DEG. F):*

BOILING POINT (DEG. F):

% VOLATILE BY VOLUME:

VAPOR PRESSURE (MMHg):

EVAPORATION RATE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY (H2O):

SOLUBILITY IN WATER: SOLUBLE IN 0.9 PART WATER, 0.6 PART IN BOILING WATER

APPEARANCE AND ODOR: WHITE OR SLIGHTLY YELLOW

* NOTE:
POTASSIUM HYDROXIDE IS PRESENT AS A LIQUID OR PASTE AND ACTS AS THE ELECTROLYTE IN THE BATTERY CELL.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NA

LOWER EXPLOSIVE LIMIT: NA
UPPER EXPLOSIVE LIMIT: NA

EXTINGUISHING MEDIA:
ANY CLASS OF EXTINGUISHING MEDIUM MAY BE USED ON THE BATTERIES OR THEIR PACKING MATERIAL.

SPECIAL FIRE FIGHTING PROCEDURES:
SPECIAL FIRE FIGHTING PROCEDURES:
EXPOSURE TO TEMPERATURES OF ABOVE 212 DEG. F CAN CAUSE EVAPORATION OF THE LIQUID CONTENT OF THE POTASSIUM HYDROXIDE ELECTROLYTE RESULTING IN THE RUPTURE OF THE CELL. POTENTIAL FOR EXPOSURE TO CADMIUM FUMES DURING FIRE; USE SELF-CONTAINED BREATHING APPARATUS.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUES: SEE SECTION II

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION:
DURING NORMAL USE INHALATION IS AN UNLIKELY ROUTE OF EXPOSURE DUE TO CONTAINMENT OF HAZARDOUS MATERIALS WITHIN THE BATTERY CASE. HOWEVER, SHOULD THE BATTERIES BE EXPOSED TO EXTREME HEAT OR PRESSURES CAUSING A BREACH IN THE BATTERY CELL CASE, EXPOSURE TO THE CONSTITUENTS MAY OCCUR. INHALATION OF COBALT DUSTS MAY RESULT IN PULMONARY CONDITIONS.

INGESTION:
IF THE BATTERY CASE IS BREACHED IN THE DIGESTIVE TRACT, THE ELECTROLYTE MAY CAUSE LOCALIZED BURNS.

SKIN ABSORPTION: NO EVIDENCE OF ADVERSE EFFECTS FROM AVAILABLE DATA.

SKIN CONTACT:
EXPOSURE TO THE ELECTROLYTE CONTAINED INSIDE THE BATTERY MAY RESULT IN CHEMICAL BURNS. EXPOSURE TO NICKEL MAY CAUSE DERMATITIS IN SOME SENSITIVE INDIVIDUALS.

EYE CONTACT:
EXPOSURE TO THE ELECTROLYTE CONTAINED INSIDE THE BATTERY MAY RESULT IN SEVERE IRRITATION AND CHEMICAL BURNS.

CARCINOGENICITY:
NICKEL HAS BEEN IDENTIFIED BY THE NATIONAL TOXICOLOGY PROGRAM (NTP) AS REASONABLY ANTICIPATED TO BE A CARCINOGEN. COBALT HAS BEEN IDENTIFIED BY IARC AS A 2B CARCINOGEN.

OTHER EFFECTS OF REPEATED (CHRONIC) EXPOSURE:
CHRONIC OVEREXPOSURE TO NICKEL MAY RESULT IN CANCER; DERMAL CONTACT MAY RESULT IN DERMATITIS IN SENSITIVE INDIVIDUALS.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:
A KNOWLEDGE OF THE AVAILABLE TOXICOLOGY INFORMATION AND OF THE PHYSICAL AND CHEMICAL PROPERTIES OF THE MATERIAL SUGGESTS THAT OVEREXPOSURE IN UNLIKELY TO AGGRAVATE EXISTING MEDICAL CONDITIONS.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING: DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN
IF INTERNAL CELL MATERIALS OF AN OPENED BATTERY CELL COMES INTO CONTACT WITH SKIN, IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES.

INHALATION:
IF POTENTIAL FOR EXPOSURE TO FUMES OR DUSTS OCCURS, REMOVE IMMEDIATELY TO FRESH AIR AND SEEK MEDICAL ATTENTION.

EYES:
IF THE CONTENTS FROM AN OPENED BATTERY COMES INTO CONTACT WITH THE EYES, IMMEDIATELY FLUSH EYES WITH WATER CONTINUOUSLY FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION.

SECTION VI - REACTIVITY DATA

THE BATTERIES ARE STABLE UNDER NORMAL OPERATING CONDITIONS.

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF NICKEL AND CADMIUM.

CONDITIONS TO AVOID: HEAT, OPEN FLAMES, SPARKS, AND MOISTURE.

POTENTIAL INCOMPATIBILITIES (I.E., MATERIALS TO AVOID CONTACT WITH):
THE BATTERY CELLS ARE ENCASED IN A NON-REACTIVE CONTAINER; HOWEVER, IF THE CONTAINER IS BREACHED, AVOID CONTACT OF INTERNAL BATTERY COMPONENTS WITH ACIDS, ALDEHYDES, AND CARBAMATE COMPOUNDS.

SECTION VII - SPILL AND LEAK PROCEDURES

SPILL AND LEAKS ARE UNLIKELY BECAUSE CELLS ARE CONTAINED IN A HERMETICALLY SEALED CASE. IF THE BATTERY CASE IS BREACHED, DON PROTECTIVE CLOTHING THAT IS IMPERVIOUS TO CAUSTIC MATERIALS AND ABSORB OR PACK SPILL RESIDUES IN INERT MATERIAL. DISPOSE OF AS A HAZARDOUS WASTE IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. RESULTANT SPILL RESIDUES MAY BE CHARACTERIZED AS D002 (CAUSTIC) AND D006 (CADMIUM) PURSUANT TO THE FEDERAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). SEE SECTION IV FOR RESPONSE TO FIRES OR EXPLOSIONS.

SECTION VIII - SAFE HANDLING AND USE

VENTILATION REQUIREMENTS: NOT REQUIRED UNDER NORMAL USE.

RESPIRATORY PROTECTION: NOT REQUIRED UNDER NORMAL USE.

EYE PROTECTION: NOT REQUIRED UNDER NORMAL USE.

GLOVES: NOT REQUIRED UNDER NORMAL USE.

SECTION IX - PRECAUTIONS FOR SAFE HANDLING AND USE

STORE IN A COOL PLACE, BUT PREVENT CONDENSATION ON CELL OR BATTERY TERMINALS. ELEVATED TEMPERATURES MAY RESULT IN REDUCED BATTERY LIFE. OPTIMUM STORAGE TEMPERATURES ARE BETWEEN -31 DEG. F AND 95 DEG. F.

MECHANICAL CONTAINMENT:
IF THERE ARE SPECIAL ENCAPSULATION OR SEALING REQUIREMENTS, CONSULT YOUR SANYO ENERGY CORP. REPRESENTATIVE ABOUT POSSIBLE CELL HAZARD PRECAUTIONS OR LIMITATIONS.

HANDLING:
ACCIDENTAL SHORT CIRCUIT WILL BRING HIGH TEMPERATURE ELEVATION TO THE BATTERY AS WELL AS SHORTEN THE BATTERY LIFE. BE SURE TO AVOID PROLONGED SHORT CIRCUIT SINCE THE HEAT CAN BURN ATTENDANT SKIN AND EVEN RUPTURE OF THE BATTERY CELL CASE. BATTERIES PACKAGED IN BULK CONTAINERS SHOULD NOT BE SHAKEN. METAL COVERED TABLES OR BELTS USED FOR ASSEMBLY OF BATTERIES INTO DEVICES CAN BE THE SOURCE OF SHORT CIRCUITS; APPLY INSULATING MATERIAL TO ASSEMBLY WORK SURFACE. IF SOLDERING OR WELDING TO THE CASE OF THE BATTERY IS REQUIRED, CONSULT YOUR SANYO ENERGY CORP. REPRESENTATIVE FOR PROPER PRECAUTIONS TO PREVENT SEAL DAMAGE OR EXTERNAL SHORT CIRCUIT.

CHARGING:
THIS BATTERY IS DESIGNED FOR RECHARGING. A LOSS OF VOLTAGE AND CAPACITY OF BATTERIES DUE TO SELF-DISCHARGE DURING PROLONGED STORAGE IS UNAVOIDABLE. CHARGE BATTERY BEFORE USE. OBSERVE THE SPECIFIED CHARGE RATE SINCE HIGHER RATES CAN CAUSE A RISE IN INTERNAL GAS PRESSURE THAT MAY RESULT IN DAMAGING HEAT GENERATION OR CELL RUPTURE AND/OR VENTING.

LABELING:
IF NORMAL LABEL WARNINGS ARE NOT VISIBLE, IT IS IMPORTANT TO PROVIDE A DEVICE LABEL STATING:

CAUTION:
DO NOT DISPOSE IN FIRE, MIX WITH OTHER BATTERY TYPES, CHARGE ABOVE SPECIFIED RATE, CONNECT IMPROPERLY, OR SHORT CIRCUIT, WHICH MAY RESULT IN OVERHEATING, EXPLOSION OR LEAKAGE OF CELL CONTENTS.

SOLDERING/WELDING:
IF SOLDERING OR WELDING TO THE CASE OF THE BATTERY IS REQUIRED, CONSULT YOUR SANYO ENERGY CORP. REPRESENTATIVE FOR PROPER PRECAUTIONS TO PREVENT SEAL DAMAGE OR EXTERNAL SHORT CIRCUIT.

SECTION X - RECYCLING AND DISPOSAL

SANYO ENCOURAGES BATTERY RECYCLING. OUR NICKEL CADMIUM BATTERIES ARE RECYCLABLE THROUGH THE RECHARGEABLE BATTERY RECYCLING CORPORATION'S (RBRC) CHARGE UP TO RECYCLE! PROGRAM. FOR INFORMATION CALL 1-800-8-BATTERY OR SEE THEIR WEBSITE AT WWW.RBRC.ORG. NICKEL CADMIUM BATTERIES MUST BE HANDLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL LAWS AND REGULATIONS.

RBRC
NI-CD
RECYCLE
1.800.822.8837

DO NOT INCINERATE OR SUBJECT BATTERY CELLS TO TEMPERATURES IN EXCESS OF 212 F. SUCH TREATMENT CAN VAPORIZE THE LIQUID ELECTROLYTE CAUSING CELL RUPTURE. INCINERATION MAY RESULT IN CADMIUM EMISSIONS.

SECTION XI - TRANSPORTATION

SANYO SEALED NICKEL CADMIUM BATTERIES ARE CONSIDERED TO "DRY CELL" BATTERIES AND NOT SUBJECT TO HAZARDOUS MATERIALS (DANGEROUS GOODS) REGULATIONS FOR THE PURPOSE OF TRANSPORTATION BY THE U.S. DEPARTMENT OF TRANSPORTATION (DOT), THE INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO), THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) OR THE INTERNATIONAL MARITIME ORGANIZATION (IMO).

THE ONLY DOT REQUIREMENT FOR SHIPPING NICKEL CADMIUM BATTERIES ARE CONTAINED IN SPECIAL PROVISION 130 WHICH STATES, "BATTERIES, DRY" ARE NOT SUBJECT TO THE REQUIREMENTS OF THIS SUBCHAPTER WHEN THEY ARE SECURELY PACKAGED AND OFFERED FOR TRANSPORTATION IN A MANNER THAT PREVENTS THE DANGEROUS EVOLUTION OF HEAT (FOR EXAMPLE, BY THE EFFECTIVE INSULATION OF EXPOSED TERMINALS) AND PROTECTS AGAINST SHORT CIRCUITS." A SIMILAR REQUIREMENT IS CONTAINED IN 49 CFR 173.21(C) OF THE U.S. DOT HAZARDOUS MATERIALS REGULATIONS.

THE IATA DANGEROUS GOODS REGULATIONS CONTAIN A SIMILAR REQUIREMENT IN SPECIAL PROVISION A123 THAT STATES, "THIS ENTRIES APPLIES TO BATTERIES, ELECTRIC STORAGE, NOT OTHERWISE LISTED IN SUBSECTION 4.2-LIST OF DANGEROUS GOODS. EXAMPLES OF SUCH BATTERIES ARE ALKALI-MANGANESE, ZINC-CARBON, NICKEL-METAL HYDRIDE, AND NICKEL CADMIUM BATTERIES. ANY ELECTRICAL BATTERY OR BATTERY POWERED DEVICE HAVING THE POTENTIAL OF DANGEROUS EVOLUTION OF HEAT THAT IS NOT PREPARED SO AS TO PREVENT A SHORT-CIRCUIT (E.G. IN THE CASE OF BATTERIES, BY THE EFFECTIVE INSULATION OF EXPOSED TERMINALS; OR, IN THE CASE OF EQUIPMENT, BY DISCONNECTION OF THE BATTERY AND PROTECTION OF EXPOSED TERMINALS) IS FORBIDDEN FROM TRANSPORT."

FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN SUBSTANTIAL CIVIL PENALTIES.

THE INFORMATION AND RECOMMENDATIONS SET FORTH ARE MADE IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE DATE OF PREPARATION. SANYO ENERGY CORP. MAKES NO WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITIES FROM RELIANCE ON IT.

DATE OF LAST REVISION: MARCH 2006

GRAINGER
FOR THE ONES WHO GET IT DONE

[X] Close this window MSDS

Common Name: DTE 24
Manufacturer: EXXON MOBIL
MSDS Revision Date: 8/19/2011

Grainger Item Number(s): 2LPK1, 2LPK2, 2LPK3, 4F968, 4ZF32, 4ZF33
Manufacturer Model Number(s): DTE 24

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EXXONMOBIL

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: MOBIL DTE 24

REVISION DATE: 19 AUG 2011

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT:
PRODUCT NAME: MOBIL DTE 24
PRODUCT DESCRIPTION: BASE OIL AND ADDITIVES
PRODUCT CODE: 201560102010, 602623-00, 970972
INTENDED USE: HYDRAULIC FLUID

COMPANY IDENTIFICATION:

SUPPLIER:
EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037

USA

24 HOUR HEALTH EMERGENCY: 609-737-4411

TRANSPORTATION EMERGENCY PHONE: 800-424-9300

EXXONMOBIL TRANSPORTATION NO.: 281-834-3296

PRODUCT TECHNICAL INFORMATION: 800-662-4525, 800-947-9147

MSDS INTERNET ADDRESS:
HTTP://WWW.EXXON.COM
HTTP://WWW.MOBIL.COM

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

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NO REPORTABLE HAZARDOUS SUBSTANCE(S) OR COMPLEX SUBSTANCE(S).

SECTION 3 HAZARDS IDENTIFICATION

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THIS MATERIAL IS NOT CONSIDERED TO BE HAZARDOUS ACCORDING TO REGULATORY GUIDELINES (SEE (M)SDS SECTION 15).

POTENTIAL HEALTH EFFECTS:
LOW ORDER OF TOXICITY. EXCESSIVE EXPOSURE MAY RESULT IN EYE, SKIN, OR RESPIRATORY IRRITATION. HIGH-PRESSURE INJECTION UNDER SKIN MAY CAUSE SERIOUS DAMAGE.

NFPA HAZARD ID:
HEALTH 0
FLAMMABILITY 1
REACTIVITY 0

HMIS HAZARD ID:
HEALTH 0
FLAMMABILITY 1
REACTIVITY 0

NOTE:
THIS MATERIAL SHOULD NOT BE USED FOR ANY OTHER PURPOSE THAN THE INTENDED USE IN SECTION 1 WITHOUT EXPERT ADVICE. HEALTH STUDIES HAVE SHOWN THAT CHEMICAL EXPOSURE MAY CAUSE POTENTIAL HUMAN HEALTH RISKS WHICH MAY VARY FROM PERSON TO PERSON.

SECTION 4 FIRST AID MEASURES

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INHALATION:
REMOVE FROM FURTHER EXPOSURE. FOR THOSE PROVIDING ASSISTANCE, AVOID EXPOSURE TO YOURSELF OR OTHERS. USE ADEQUATE RESPIRATORY PROTECTION. IF RESPIRATORY IRRITATION, DIZZINESS, NAUSEA, OR UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE. IF BREATHING HAS STOPPED, ASSIST VENTILATION WITH A MECHANICAL DEVICE OR USE MOUTH-TO-MOUTH RESUSCITATION.

SKIN CONTACT:
WASH CONTACT AREAS WITH SOAP AND WATER. IF PRODUCT IS INJECTED INTO OR UNDER THE SKIN, OR INTO ANY PART OF THE BODY, REGARDLESS OF THE APPEARANCE OF THE WOUND OR ITS SIZE, THE INDIVIDUAL SHOULD BE EVALUATED IMMEDIATELY BY A

WOUND OR ITS SIZE, THE INDIVIDUAL SHOULD BE EVALUATED IMMEDIATELY BY A PHYSICIAN AS A SURGICAL EMERGENCY. EVEN THOUGH INITIAL SYMPTOMS FROM HIGH PRESSURE INJECTION MAY BE MINIMAL OR ABSENT, EARLY SURGICAL TREATMENT WITHIN THE FIRST FEW HOURS MAY SIGNIFICANTLY REDUCE THE ULTIMATE EXTENT OF INJURY.

EYE CONTACT:
FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ASSISTANCE.

INGESTION:
FIRST AID IS NORMALLY NOT REQUIRED. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

SECTION 5 FIRE FIGHTING MEASURES

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EXTINGUISHING MEDIA:

APPROPRIATE EXTINGUISHING MEDIA:
USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE (CO2) TO EXTINGUISH FLAMES.

INAPPROPRIATE EXTINGUISHING MEDIA: STRAIGHT STREAMS OF WATER

FIRE FIGHTING:

FIRE FIGHTING INSTRUCTIONS:
EVACUATE AREA. PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS, SEWERS, OR DRINKING WATER SUPPLY. FIREFIGHTERS SHOULD USE STANDARD PROTECTIVE EQUIPMENT AND IN ENCLOSED SPACES, SELF-CONTAINED BREATHING APPARATUS (SCBA). USE WATER SPRAY TO COOL FIRE EXPOSED SURFACES AND TO PROTECT PERSONNEL.

UNUSUAL FIRE HAZARDS: PRESSURIZED MISTS MAY FORM A FLAMMABLE MIXTURE.

HAZARDOUS COMBUSTION PRODUCTS:
SMOKE, FUME, ALDEHYDES, SULFUR OXIDES, INCOMPLETE COMBUSTION PRODUCTS, OXIDES OF CARBON

FLAMMABILITY PROPERTIES:
FLASH POINT (METHOD): >200C (392F) (ASTM D-92)

FLAMMABLE LIMITS (APPROXIMATE VOLUME % IN AIR):

LEL: 0.9
UEL: 7.0

AUTOIGNITION TEMPERATURE: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

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NOTIFICATION PROCEDURES:
IN THE EVENT OF A SPILL OR ACCIDENTAL RELEASE, NOTIFY RELEVANT AUTHORITIES IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. US REGULATIONS REQUIRE REPORTING RELEASES OF THIS MATERIAL TO THE ENVIRONMENT WHICH EXCEED THE APPLICABLE REPORTABLE QUANTITY OR OIL SPILLS WHICH COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. THE NATIONAL RESPONSE CENTER CAN BE REACHED AT (800) 424-8802.

PROTECTIVE MEASURES:
AVOID CONTACT WITH SPILLED MATERIAL. SEE SECTION 5 FOR FIRE FIGHTING INFORMATION. SEE THE HAZARD IDENTIFICATION SECTION FOR SIGNIFICANT HAZARDS.

SEE SECTION 4 FOR FIRST AID ADVICE. SEE SECTION 8 FOR ADVICE ON THE MINIMUM REQUIREMENTS FOR PERSONAL PROTECTIVE EQUIPMENT. ADDITIONAL PROTECTIVE MEASURES MAY BE NECESSARY, DEPENDING ON THE SPECIFIC CIRCUMSTANCES AND/OR THE EXPERT JUDGMENT OF THE EMERGENCY RESPONDERS.

FOR EMERGENCY RESPONDERS:

RESPIRATORY PROTECTION:
RESPIRATORY PROTECTION WILL BE NECESSARY ONLY IN SPECIAL CASES, E.G., FORMATION OF MISTS. HALF-FACE OR FULL-FACE RESPIRATOR WITH FILTER(S) FOR DUST/ORGANIC VAPOR OR SELF CONTAINED BREATHING APPARATUS (SCBA) CAN BE USED DEPENDING ON THE SIZE OF SPILL AND POTENTIAL LEVEL OF EXPOSURE. IF THE EXPOSURE CANNOT BE COMPLETELY CHARACTERIZED OR AN OXYGEN DEFICIENT ATMOSPHERE IS POSSIBLE OR ANTICIPATED, SCBA IS RECOMMENDED. WORK GLOVES THAT

ARE RESISTANT TO HYDROCARBONS ARE RECOMMENDED. GLOVES MADE OF POLYVINYL ACETATE (PVA) ARE NOT WATER-RESISTANT AND ARE NOT SUITABLE FOR EMERGENCY USE. CHEMICAL GOGGLES ARE RECOMMENDED IF SPLASHES OR CONTACT WITH EYES IS POSSIBLE.

SMALL SPILLS: NORMAL ANTISTATIC WORK CLOTHES ARE USUALLY ADEQUATE.

LARGE SPILLS:
FULL BODY SUIT OF CHEMICAL RESISTANT, ANTISTATIC MATERIAL IS RECOMMENDED.

SPILL MANAGEMENT:

LAND SPILL:
STOP LEAK IF YOU CAN DO IT WITHOUT RISK. RECOVER BY PUMPING OR WITH SUITABLE ABSORBENT.

WATER SPILL:
STOP LEAK IF YOU CAN DO IT WITHOUT RISK. CONFINE THE SPILL IMMEDIATELY WITH BOOMS. WARN OTHER SHIPPING. REMOVE FROM THE SURFACE BY SKIMMING OR WITH SUITABLE ABSORBENTS. SEEK THE ADVICE OF A SPECIALIST BEFORE USING DISPERSANTS.

WATER SPILL AND LAND SPILL RECOMMENDATIONS ARE BASED ON THE MOST LIKELY SPILL SCENARIO FOR THIS MATERIAL; HOWEVER, GEOGRAPHIC CONDITIONS, WIND, TEMPERATURE, (AND IN THE CASE OF A WATER SPILL) WAVE AND CURRENT DIRECTION AND SPEED MAY GREATLY INFLUENCE THE APPROPRIATE ACTION TO BE TAKEN. FOR THIS REASON, LOCAL EXPERTS SHOULD BE CONSULTED.

NOTE: LOCAL REGULATIONS MAY PRESCRIBE OR LIMIT ACTION TO BE TAKEN.

ENVIRONMENTAL PRECAUTIONS:

LARGE SPILLS:
DIKE FAR AHEAD OF LIQUID SPILL FOR LATER RECOVERY AND DISPOSAL. PREVENT ENTRY INTO WATERWAYS, SEWERS, BASEMENTS OR CONFINED AREAS.

SECTION 7 HANDLING AND STORAGE

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HANDLING:
PREVENT SMALL SPILLS AND LEAKAGE TO AVOID SLIP HAZARD. MATERIAL CAN ACCUMULATE STATIC CHARGES WHICH MAY CAUSE AN ELECTRICAL SPARK (IGNITION SOURCE). WHEN THE MATERIAL IS HANDLED IN BULK, AN ELECTRICAL SPARK COULD IGNITE ANY FLAMMABLE VAPORS FROM LIQUIDS OR RESIDUES THAT MAY BE PRESENT (E.G., DURING SWITCH-LOADING OPERATIONS). USE PROPER BONDING AND/OR GROUND PROCEDURES. HOWEVER, BONDING AND GROUNDS MAY NOT ELIMINATE THE HAZARD FROM STATIC ACCUMULATION. CONSULT LOCAL APPLICABLE STANDARDS FOR GUIDANCE.

ADDITIONAL
REFERENCES INCLUDE AMERICAN PETROLEUM INSTITUTE 2003 (PROTECTION AGAINST IGNITIONS ARISING OUT OF STATIC, LIGHTNING AND STRAY CURRENTS) OR NATIONAL FIRE PROTECTION AGENCY 77 (RECOMMENDED PRACTICE ON STATIC ELECTRICITY) OR CENELEC CLC/TR 50404 (ELECTROSTATICS - CODE OF PRACTICE FOR THE AVOIDANCE OF HAZARDS DUE TO STATIC ELECTRICITY).

STATIC ACCUMULATOR: THIS MATERIAL IS A STATIC ACCUMULATOR.

STORAGE:
THE CONTAINER CHOICE, FOR EXAMPLE STORAGE VESSEL, MAY EFFECT STATIC ACCUMULATION AND DISSIPATION. DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS. KEEP AWAY FROM INCOMPATIBLE MATERIALS.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

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EXPOSURE LIMITS/STANDARDS FOR MATERIALS THAT CAN BE FORMED WHEN HANDLING THIS PRODUCT:

WHEN MISTS/AEROSOLS CAN OCCUR THE FOLLOWING ARE RECOMMENDED:
5 MG/M3 - ACGIH TLV (INHALABLE FRACTION), 5 MG/M3 - OSHA PEL.

NOTE: LIMITS/STANDARDS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

ENGINEERING CONTROLS:
THE LEVEL OF PROTECTION AND TYPES OF CONTROLS NECESSARY WILL VARY DEPENDING UPON POTENTIAL EXPOSURE CONDITIONS.

CONTROL MEASURES TO CONSIDER:
NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

PERSONAL PROTECTION:
PERSONAL PROTECTIVE EQUIPMENT SELECTIONS VARY BASED ON POTENTIAL EXPOSURE CONDITIONS SUCH AS APPLICATIONS, HANDLING PRACTICES, CONCENTRATION AND VENTILATION. INFORMATION ON THE SELECTION OF PROTECTIVE EQUIPMENT FOR USE WITH THIS MATERIAL, AS PROVIDED BELOW, IS BASED UPON INTENDED, NORMAL USAGE.

RESPIRATORY PROTECTION:
IF ENGINEERING CONTROLS DO NOT MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS AT A LEVEL WHICH IS ADEQUATE TO PROTECT WORKER HEALTH, AN APPROVED RESPIRATOR MAY BE APPROPRIATE. RESPIRATOR SELECTION, USE, AND MAINTENANCE MUST BE IN ACCORDANCE WITH REGULATORY REQUIREMENTS, IF APPLICABLE.

TYPES OF RESPIRATORS TO BE CONSIDERED FOR THIS MATERIAL INCLUDE:
NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

FOR HIGH AIRBORNE CONCENTRATIONS, USE AN APPROVED SUPPLIED-AIR RESPIRATOR, OPERATED IN POSITIVE PRESSURE MODE. SUPPLIED AIR RESPIRATORS WITH AN ESCAPE BOTTLE MAY BE APPROPRIATE WHEN OXYGEN LEVELS ARE INADEQUATE, GAS/VAPOR WARNING PROPERTIES ARE POOR, OR IF AIR PURIFYING FILTER CAPACITY/RATING MAY BE EXCEEDED.

HAND PROTECTION:
ANY SPECIFIC GLOVE INFORMATION PROVIDED IS BASED ON PUBLISHED LITERATURE AND GLOVE MANUFACTURER DATA. GLOVE SUITABILITY AND BREAKTHROUGH TIME WILL DIFFER DEPENDING ON THE SPECIFIC USE CONDITIONS. CONTACT THE GLOVE MANUFACTURER FOR SPECIFIC ADVICE ON GLOVE SELECTION AND BREAKTHROUGH TIMES FOR YOUR USE CONDITIONS. INSPECT AND REPLACE WORN OR DAMAGED GLOVES.

THE TYPES OF GLOVES TO BE CONSIDERED FOR THIS MATERIAL INCLUDE:
NO PROTECTION IS ORDINARILY REQUIRED UNDER NORMAL CONDITIONS OF USE.

EYE PROTECTION:
IF CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE SHIELDS ARE RECOMMENDED.

SKIN AND BODY PROTECTION:
ANY SPECIFIC CLOTHING INFORMATION PROVIDED IS BASED ON PUBLISHED LITERATURE OR MANUFACTURER DATA.

THE TYPES OF CLOTHING TO BE CONSIDERED FOR THIS MATERIAL INCLUDE:
NO SKIN PROTECTION IS ORDINARILY REQUIRED UNDER NORMAL CONDITIONS OF USE. IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE PRACTICES, PRECAUTIONS SHOULD BE TAKEN TO AVOID SKIN CONTACT.

SPECIFIC HYGIENE MEASURES:
ALWAYS OBSERVE GOOD PERSONAL HYGIENE MEASURES, SUCH AS WASHING AFTER HANDLING THE MATERIAL AND BEFORE EATING, DRINKING, AND/OR SMOKING. ROUTINELY WASH WORK CLOTHING AND PROTECTIVE EQUIPMENT TO REMOVE CONTAMINANTS. DISCARD CONTAMINATED CLOTHING AND FOOTWEAR THAT CANNOT BE CLEANED. PRACTICE GOOD HOUSEKEEPING.

ENVIRONMENTAL CONTROLS: SEE SECTIONS 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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NOTE:
PHYSICAL AND CHEMICAL PROPERTIES ARE PROVIDED FOR SAFETY, HEALTH AND ENVIRONMENTAL CONSIDERATIONS ONLY AND MAY NOT FULLY REPRESENT PRODUCT SPECIFICATIONS. CONTACT THE SUPPLIER FOR ADDITIONAL INFORMATION.

GENERAL INFORMATION:
PHYSICAL STATE: LIQUID
COLOR: BROWN
ODOR: CHARACTERISTIC
ODOR THRESHOLD: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION:

RELATIVE DENSITY (AT 15.6 C): 0.871

FLASH POINT (METHOD): >200C (392F) (ASTM D-92)

FLAMMABLE LIMITS (APPROXIMATE VOLUME % IN AIR):
LEL: 0.9
UEL: 7.0

AUTOIGNITION TEMPERATURE: N/D

BOILING POINT/ RANGE: >316C (600F)

VAPOR DENSITY (AIR = 1): >2 AT 101 KPA

VAPOR PRESSURE: <0.013 KPA (0.1 MMHg) AT 20 C

EVAPORATION RATE (n-BUTYL ACETATE = 1): N/D

pH: N/A

LOG POW (n-OCTANOL/WATER PARTITION COEFFICIENT): >3.5

SOLUBILITY IN WATER: NEGLIGIBLE

VISCOSITY:
32 CST (32 MM2/SEC) AT 40 C
5.3 CST (5.3 MM2/SEC) AT 100C

OXIDIZING PROPERTIES: SEE HAZARDS IDENTIFICATION SECTION.

OTHER INFORMATION:
FREEZING POINT: N/D
MELTING POINT: N/A
POUR POINT: -18 DEG. C (0 DEG. F)
DMSO EXTRACT (MINERAL OIL ONLY), IP-346: <3 %WT

SECTION 10 STABILITY AND REACTIVITY

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STABILITY: MATERIAL IS STABLE UNDER NORMAL CONDITIONS.

CONDITIONS TO AVOID: EXCESSIVE HEAT. HIGH ENERGY SOURCES OF IGNITION.

MATERIALS TO AVOID: STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:
MATERIAL DOES NOT DECOMPOSE AT AMBIENT TEMPERATURES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 TOXICOLOGICAL INFORMATION

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ACUTE TOXICITY:

ROUTE OF EXPOSURE	CONCLUSION / REMARKS
INHALATION:	
TOXICITY (RAT): LC50: >5000 MG/M3	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
IRRITATION: HANDLING NO END POINT DATA.	NEGLIGIBLE HAZARD AT AMBIENT/NORMAL TEMPERATURES. BASED ON ASSESSMENT OF THE COMPONENTS.
INGESTION:	
TOXICITY (RAT): LD50: >5000 MG/KG	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
SKIN:	
TOXICITY (RABBIT): LD50: >5000 MG/KG	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
IRRITATION (RABBIT): DATA AVAILABLE.	NEGLIGIBLE IRRITATION TO SKIN AT AMBIENT TEMPERATURES. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
EYE:	

IRRITATION (RABBIT): DATA AVAILABLE.	MAY CAUSE MILD, SHORT-LASTING DISCOMFORT TO EYES. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.

CHRONIC/OTHER EFFECTS:

CONTAINS:

BASE OIL SEVERELY REFINED:
NOT CARCINOGENIC IN ANIMAL STUDIES. REPRESENTATIVE MATERIAL PASSES IP-346, MODIFIED AMES TEST, AND/OR OTHER SCREENING TESTS. DERMAL AND INHALATION STUDIES SHOWED MINIMAL EFFECTS; LUNG NON-SPECIFIC INFILTRATION OF IMMUNE CELLS, OIL DEPOSITION AND MINIMAL GRANULOMA FORMATION. NOT SENSITIZING IN TEST ANIMALS.

ADDITIONAL INFORMATION IS AVAILABLE BY REQUEST.

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW: NONE.

REGULATORY LISTS SEARCHED:
1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

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THE INFORMATION GIVEN IS BASED ON DATA AVAILABLE FOR THE MATERIAL, THE COMPONENTS OF THE MATERIAL, AND SIMILAR MATERIALS.

ECOTOXICITY:
MATERIAL: NOT EXPECTED TO BE HARMFUL TO AQUATIC ORGANISMS.

MOBILITY:

BASE OIL COMPONENT:
LOW SOLUBILITY AND FLOATS AND IS EXPECTED TO MIGRATE FROM WATER TO THE LAND. EXPECTED TO PARTITION TO SEDIMENT AND WASTEWATER SOLIDS.

PERSISTENCE AND DEGRADABILITY:

BIODEGRADATION:
BASE OIL COMPONENT: EXPECTED TO BE INHERENTLY BIODEGRADABLE

BIOACCUMULATION POTENTIAL:

BASE OIL COMPONENT:
HAS THE POTENTIAL TO BIOACCUMULATE, HOWEVER METABOLISM OR PHYSICAL PROPERTIES MAY REDUCE THE BIOCONCENTRATION OR LIMIT BIOAVAILABILITY.

SECTION 13 DISPOSAL CONSIDERATIONS

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DISPOSAL RECOMMENDATIONS BASED ON MATERIAL AS SUPPLIED. DISPOSAL MUST BE IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND MATERIAL CHARACTERISTICS AT TIME OF DISPOSAL.

DISPOSAL RECOMMENDATIONS:
PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED CONTROLLED BURNER FOR FUEL

VALUE OR DISPOSAL BY SUPERVISED INCINERATION AT VERY HIGH TEMPERATURES TO PREVENT FORMATION OF UNDESIRABLE COMBUSTION PRODUCTS. PROTECT THE ENVIRONMENT. DISPOSE OF USED OIL AT DESIGNATED SITES. MINIMIZE SKIN CONTACT.

DO NOT MIX USED OILS WITH SOLVENTS, BRAKE FLUIDS OR COOLANTS.

REGULATORY DISPOSAL INFORMATION:

RCRA INFORMATION:
THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED AS HAZARDOUS WASTES. IT DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSITIVITY OR REACTIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

EMPTY CONTAINER WARNING:

EMPTY CONTAINER WARNING (WHERE APPLICABLE):
EMPTY CONTAINERS MAY CONTAIN RESIDUE AND CAN BE DANGEROUS. DO NOT ATTEMPT TO REFILL OR CLEAN CONTAINERS WITHOUT PROPER INSTRUCTIONS. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED AND SAFELY STORED UNTIL APPROPRIATELY RECONDITIONED OR DISPOSED. EMPTY CONTAINERS SHOULD BE TAKEN FOR RECYCLING, RECOVERY, OR DISPOSAL THROUGH SUITABLY QUALIFIED OR LICENSED CONTRACTOR AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 - TRANSPORT INFORMATION

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LAND (DOT): NOT REGULATED FOR LAND TRANSPORT

LAND (TDG): NOT REGULATED FOR LAND TRANSPORT

SEA (IMDG): NOT REGULATED FOR SEA TRANSPORT ACCORDING TO IMDG-CODE

AIR (IATA): NOT REGULATED FOR AIR TRANSPORT

SECTION 15 REGULATORY INFORMATION

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OSHA HAZARD COMMUNICATION STANDARD:
WHEN USED FOR ITS INTENDED PURPOSES, THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS IN ACCORDANCE WITH OSHA 29 CFR 1910.1200.

COMPLIES WITH THE FOLLOWING NATIONAL/REGIONAL CHEMICAL INVENTORY REQUIREMENTS: ENCS, AICS, TSCA, DSL, IECSC, PICCS, KECI, EINECS

EPCRA: THIS MATERIAL CONTAINS NO EXTREMELY HAZARDOUS SUBSTANCES.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: NONE.

SARA (313) TOXIC RELEASE INVENTORY:
THIS MATERIAL CONTAINS NO CHEMICALS SUBJECT TO THE SUPPLIER NOTIFICATION REQUIREMENTS OF THE SARA 313 TOXIC RELEASE PROGRAM.

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
SOLVENT REFINED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64741-97-5	16, 17
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	15

REGULATORY LISTS SEARCHED:
1 = ACGIH ALL
2 = ACGIH A1
3 = ACGIH A2
4 = OSHA Z
5 = TSCA 4
6 = TSCA 5A2
7 = TSCA 5E
8 = TSCA 6
9 = TSCA 12B
10 = CAP 65 CARC
11 = CAP 65 REPRO
12 = CA RTK
13 = IL RTK
14 = LA RTK
15 = MI 293
16 = MN RTK
17 = NJ RTK
18 = PA RTK
19 = RI RTK

CODE KEY: CARC=CARCINOGEN; REPRO=REPRODUCTIVE

SECTION 16 OTHER INFORMATION

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N/D = NOT DETERMINED
N/A = NOT APPLICABLE

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

REVISION CHANGES:
SECTION 13: DISPOSAL CONSIDERATIONS - DISPOSAL RECOMMENDATIONS WAS MODIFIED.
SECTION 01: PRODUCT CODE WAS MODIFIED.
SECTION 10: STABILITY AND REACTIVITY - HEADER WAS MODIFIED.
SECTION 13: DISPOSAL RECOMMENDATIONS - NOTE WAS MODIFIED.
SECTION 09: PHYS/CHEM PROPERTIES NOTE WAS MODIFIED.
SECTION 09: COLOR WAS MODIFIED.
SECTION 08: PERSONAL PROTECTION WAS MODIFIED.

SECTION 07: HANDLING AND STORAGE - HANDLING WAS MODIFIED.
SECTION 07: HANDLING AND STORAGE - STORAGE PHRASES WAS MODIFIED.
SECTION 11: INHALATION LETHALITY TEST COMMENT WAS MODIFIED.
SECTION 11: DERMAL IRRITATION TEST COMMENT WAS MODIFIED.
SECTION 11: EYE IRRITATION TEST COMMENT WAS MODIFIED.
SECTION 05: HAZARDOUS COMBUSTION PRODUCTS WAS MODIFIED.
SECTION 06: ACCIDENTAL RELEASE - SPILL MANAGEMENT - WATER WAS MODIFIED.
SECTION 09: RELATIVE DENSITY - HEADER WAS MODIFIED.
SECTION 09: FLASH POINT C (F) WAS MODIFIED.
SECTION 09: VISCOSITY WAS MODIFIED.
SECTION 09: VISCOSITY WAS MODIFIED.

SECTION 14: SEA (IMDG) - HEADER WAS MODIFIED.
SECTION 14: AIR (IATA) - HEADER WAS MODIFIED.
SECTION 14: LAND (TDG) - HEADER WAS MODIFIED.
SECTION 14: LAND (DOT) - HEADER WAS MODIFIED.
SECTION 15: LIST CITATION TABLE - HEADER WAS MODIFIED.
SECTION 14: LAND (DOT) - DEFAULT WAS MODIFIED.
SECTION 14: LAND (TDG) DEFAULT WAS MODIFIED.
SECTION 14: SEA (IMDG) - DEFAULT WAS MODIFIED.
SECTION 14: AIR (IATA) - DEFAULT WAS MODIFIED.
SECTION 15: NATIONAL CHEMICAL INVENTORY LISTING - HEADER WAS MODIFIED.
SECTION 15: NATIONAL CHEMICAL INVENTORY LISTING WAS MODIFIED.
SECTION 08: EXPOSURE LIMITS/STANDARDS WAS MODIFIED.
HAZARD IDENTIFICATION: OSHA - MAY BE HAZARDOUS STATEMENT WAS MODIFIED.
SECTION 09: OXIDIZING PROPERTIES WAS MODIFIED.
SECTION 06: PROTECTIVE MEASURES WAS ADDED.
SECTION 06: ACCIDENTAL RELEASE - PROTECTIVE MEASURES - HEADER WAS ADDED.
SECTION 15: CHEMICAL NAME - HEADER WAS ADDED.
SECTION 15: CAS NUMBER - HEADER WAS ADDED.
SECTION 15: LIST CITATIONS - HEADER WAS ADDED.
SECTION 15: LIST CITATIONS TABLE WAS ADDED.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE, TO THE BEST OF EXXONMOBIL'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE ISSUED. YOU CAN CONTACT EXXONMOBIL TO INSURE THAT THIS DOCUMENT IS THE MOST CURRENT AVAILABLE FROM EXXONMOBIL. THE INFORMATION AND RECOMMENDATIONS ARE OFFERED FOR THE USER'S CONSIDERATION AND EXAMINATION. IT IS THE USER'S RESPONSIBILITY TO SATISFY ITSELF THAT THE PRODUCT IS SUITABLE FOR THE INTENDED USE. IF BUYER REPACKAGES THIS PRODUCT, IT IS THE USER'S RESPONSIBILITY TO INSURE PROPER HEALTH, SAFETY AND OTHER NECESSARY INFORMATION IS INCLUDED WITH AND/OR ON THE CONTAINER. APPROPRIATE WARNINGS AND SAFE-HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. ALTERATION OF THIS DOCUMENT IS STRICTLY PROHIBITED. EXCEPT TO THE EXTENT REQUIRED BY LAW, RE-PUBLICATION OR RETRANSMISSION OF THIS DOCUMENT, IN WHOLE

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EXXON MOBIL CORPORATION, OR ANY AFFILIATES IN WHICH THEY DIRECTLY OR INDIRECTLY HOLD ANY INTEREST.

INTERNAL USE ONLY:
MHC: 0B, 0B, 0, 0, 0, 0
PPEC: A

DGN: 2007783XUS (1014069)

Material Safety Data Sheet

DuPont™ FREON® 22 Refrigerant

Version 2.3

Revision Date 10/04/2011 Ref. 130000024323

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ FREON® 22 Refrigerant
Product Grade/Type	:	ASHRAE Refrigerant number designation: R-22
Tradename/Synonym	:	R-22 FREON® 22 CHLORODIFLUOROMETHANE HCFC-22 DYMEL® 22
MSDS Number	:	130000024323
Product Use	:	Refrigerant
Manufacturer	:	DuPont 1007 Market Street Wilmington, DE 19898
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Rapid evaporation of the liquid may cause frostbite.

Potential Health Effects

Skin

Chlorodifluoromethane (HCFC-22)	:	Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Eyes

Chlorodifluoromethane (HCFC-22)	:	Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Inhalation

Chlorodifluoromethane (HCFC-22) : Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.
Other symptoms potentially related to misuse or inhalation abuse are: Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Chlorodifluoromethane (HCFC-22)	75-45-6	100 %

SECTION 4. FIRST AID MEASURES

Skin contact : Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Inhalation : Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Call a physician.

Ingestion : Is not considered a potential route of exposure.

General advice : Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.

Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties		
Flash point	:	does not flash
Thermal decomposition	:	632 °C (1,170 °F)
Fire and Explosion Hazard	:	Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Decomposition may occur. Contact of welding or soldering torch flame with high concentrations of refrigerant can result in visible changes in the size and colour of the torch flame. This flame effect will only occur in concentrations of product well above the recommended exposure limit. Therefore stop all work and ventilate to disperse refrigerant vapors from the work area before using any open flames. This substance is not flammable in air at temperatures up to 100 deg. C (212 deg. F) at atmospheric pressure. However, mixtures of this substance with high concentrations of air at elevated pressure and/or temperature can become combustible in the presence of an ignition source. This substance can also become combustible in an oxygen enriched environment (oxygen concentrations greater than that in air). Whether a mixture containing this substance and air, or this substance in an oxygen enriched atmosphere become combustible depends on the inter-relationship of 1) the temperature 2) the pressure, and 3) the proportion of oxygen in the mixture. In general, this substance should not be allowed to exist with air above atmospheric pressure or at high temperatures; or in an oxygen enriched environment. For example this substance should NOT be mixed with air under pressure for leak testing or other purposes. Experimental data have also been reported which indicate combustibility of this substance in the presence of certain concentrations of chlorine.
Suitable extinguishing media	:	As appropriate for combustibles in area. Extinguishant for other burning material in area is sufficient to stop burning.

Firefighting Instructions	:	In the event of fire, wear self-contained breathing apparatus. Wear neoprene gloves during cleaning up work after a fire. Self-contained breathing apparatus (SCBA) is required if containers rupture and contents are released under fire conditions. Cool containers / tanks with water spray. Water runoff should be contained and neutralized prior to release.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.
Spill Cleanup	:	Evaporates.
Accidental Release Measures	:	Should not be released into the environment. Ventilate area, especially low or enclosed places where heavy vapours might collect. Avoid open flames and high temperatures. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. The product should not be mixed with air for leak testing or used with air for any other purpose above atmospheric pressure. Contact with chlorine or other strong oxidizing agents should also be avoided. Handle in accordance with good industrial hygiene and safety practice.
Handling (Physical Aspects)	:	No special protective measures against fire required.
Storage	:	Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure

(>3000 psig) piping or systems. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over.
Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Avoid area where salt or other corrosive materials are present.

Storage temperature : < 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation, especially in confined areas. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places.

Personal protective equipment
Respiratory protection : Under normal manufacturing conditions, no respiratory protection is required when using this product. For rescue and maintenance work in storage tanks use self-contained breathing apparatus.

Hand protection : Additional protection: Impervious gloves

Eye protection : Safety glasses with side-shields Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.

Protective measures : Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines
Exposure Limit Values

Chlorodifluoromethane			
TLV	(ACGIH)	1,000 ppm	TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquefied gas
Color	:	clear
Odor	:	slight, ether-like
pH	:	neutral
Boiling point	:	-40.8 °C (-41.4 °F)
% Volatile	:	100 %
Vapour Pressure	:	10,439.0 hPa at 25 °C (77 °F)
Density	:	1.194 g/cm3 at 25 °C (77 °F)
Water solubility	:	2.6 g/l at 25 °C (77 °F)
Vapour density	:	3.0 at 25 °C (77 °F) and 1013 hPa (Air=1.0)
Evaporation rate	:	> 1 (CCL4=1.0)

SECTION 10. STABILITY AND REACTIVITY

Stability	:	Stable under recommended storage conditions.
Conditions to avoid	:	The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions. Avoid open flames and high temperatures.
Incompatibility	:	Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Decomposition products are hazardous., This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides., These materials are toxic and irritating., Avoid contact with decomposition products
Hazardous reactions	:	Polymerization will not occur. Other burning materials may cause HCFC 22 to burn weakly. Chlorodifluoromethane is not flammable at ambient temperatures and atmospheric pressure. However, chlorodifluoromethane has been shown in tests to be combustible at pressures as low as 60 psig at ambient temperature when mixed with air at concentrations of 65 volume % air. Experimental data have also been reported which indicate combustibility of

HCFC 22 in the presence of certain concentrations of chlorine.

SECTION 11. TOXICOLOGICAL INFORMATION

Chlorodifluoromethane (HCFC-22)

Dermal	:	not applicable
Oral	:	not applicable
Inhalation 4 h LC50	:	220000 ppm , rat
Inhalation	:	dog Cardiac sensitization
Skin irritation	:	No skin irritation, rabbit Not expected to cause skin irritation based on expert review of the properties of the substance.
Eye irritation	:	No eye irritation, rabbit Not expected to cause eye irritation based on expert review of the properties of the substance.
Skin sensitization	:	Did not cause sensitization on laboratory animals., guinea pig Not expected to cause sensitization based on expert review of the properties of the substance.
Repeated dose toxicity	:	Inhalation mouse No toxicologically significant effects were found.
Carcinogenicity	:	An increased incidence of tumours was observed in some laboratory animals but not in others. Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	:	Did not cause genetic damage in animals. Did not cause genetic damage in cultured mammalian cells. Experiments showed mutagenic effects in cultured bacterial cells.

Reproductive toxicity	:	Evidence suggests the substance is not a reproductive toxin in animals.
Teratogenicity	:	Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
Further information	:	Cardiac sensitisation threshold limit : 175000 mg/m3

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
Chlorodifluoromethane (HCFC-22)

96 h LC50	:	Zebra fish 777 mg/l
96 h EC50	:	Algae 250 mg/l
48 h EC50	:	Daphnia magna (Water flea) 433 mg/l

Environmental Fate
DuPont™ FREON® 22 Refrigerant

Biodegradability	:	According to the results of tests of biodegradability this product is not readily biodegradable.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	:	Can be used after re-conditioning. Recover, reclaim by distillation, or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.
Environmental Hazards	:	Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT UN number : 1018

DuPont™ FREON® 22 Refrigerant

Version 2.3

Revision Date 10/04/2011 Ref. 130000024323

	Proper shipping name	: Chlorodifluoromethane
	Class	: 2.2
	Labelling No.	: 2.2
IATA_C	UN number	: 1018
	Proper shipping name	: Chlorodifluoromethane
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 1018
	Proper shipping name	: Chlorodifluoromethane
	Class	: 2.2
	Labelling No.	: 2.2

SECTION 15. REGULATORY INFORMATION

SARA 313 Regulated Chemical(s)	: Chlorodifluoromethane
California Prop. 65	: Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known
PA Right to Know Regulated Chemical(s)	: Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Chlorodifluoromethane
NJ Right to Know Regulated Chemical(s)	: Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Chlorodifluoromethane

SECTION 16. OTHER INFORMATION

		HMIS
Health	:	1
Flammability	:	0

DuPont™ FREON® 22 Refrigerant

Version 2.3

Revision Date 10/04/2011 Ref. 130000024323

Reactivity/Physical hazard	:	1
PPE	:	Personal Protection rating to be supplied by user depending on use conditions.

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Before use read DuPont's safety information.
For further information contact the local DuPont office or DuPont's nominated distributors.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

5 . Fire-fighting measures

Flammability of the product In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Special exposure hazards Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on explosion hazards Non Explosive.

Flammable limits N.A.

6. Control and preventive measures

Storage Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Personal protection

Respiratory None normally required.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Skin Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eyes Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Methods for cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

disposal Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

7. Physical and chemical properties

Physical state	Liquid	**Boiling/condensation point**	133°C (271.4°F)
Color	Colorless	**Melting/freezing point**	-29°C (-20.2°F)
Odor	Bland	**Vapor pressure**	0.85 kPa (6.4 mm Hg)
VOC	N.A.	**Vapor density**	1 [Air = 1]
pH	12.4 - 13.4	**Weight per Gallon:**	8.66 lbs./gal.
1% pH:	9.5	**Specific Gravity:**	1.04 gm/ml
Solubility	Complete		

8. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tetrasodium ethylenediaminetetraacetate	LD50 Oral	Rat	10 g/kg	-

Conclusion/Summary To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Chronic toxicity

Conclusion/Summary Not available

9. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1814	POTASSIUM HYDROXIDE, SOLUTION (disodium metasilicate)	8	II		**Reportable quantity** 100 lbs. (45.4 kg)

cking group

Material Safety Data Sheet: DIESEL-MATE ALL SEASONS

Supercedes Date 07/09/2012 **Issuing Date** 11/20/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name DIESEL-MATE ALL SEASONS
Recommended use Fuel additive
Information on Manufacturer
CERTIFIED LABS, DIV. OF NCH CORP.
BOX 152170
IRVING, TEXAS 75015

Product Code 0240
Chemical nature Petroleum distillates
Emergency Telephone Number
CHEMTREC® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
DANGER
Combustible liquid and vapor
May be harmful if inhaled
Causes skin irritation
Causes eye irritation
May cause allergic skin reaction
May be harmful if swallowed

Color Orange - Brown **Physical State** Liquid **Odor** Petroleum distillates

Potential Health Effects

Principle Route of Exposure Inhalation, Skin contact, Eye contact.

Primary Routes of Entry Inhalation, Skin Absorption.

Acute Effects

Eyes *Causes eye irritation.*

Skin Causes skin irritation. May cause allergic skin reaction. May be absorbed through the skin in harmful amounts. Blood disorder may occur after prolonged skin contact.

Inhalation May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Blood disorder may occur after prolonged inhalation. Methemoglobinemia. Lowered blood pressure.

Ingestion Irritating to mucous membranes. Causes headache, drowsiness or other effects to the central nervous system. Blood disorder may occur after ingestion. Methemoglobinemia. Lowered blood pressure. Bloody urine. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.

Chronic Toxicity Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact. Contains a known or suspected carcinogen. Suspect reproductive hazard - contains material which may injure unborn child.

Target Organ Effects Blood, Central nervous system, Peripheral Nervous System (PNS), Kidney, Liver, Respiratory system, Skin, Ears, Cardiovascular system, Immune system.

Aggravated Medical Conditions Kidney disorders, Liver disorders, Blood disorders, Neurological disorders, Skin disorders, Respiratory disorders, Heart disease.

Potential Environmental Effects See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
2-Ethylhexyl nitrate	27247-96-7
Naphtha (petroleum), heavy aromatic	64742-94-5
Petroleum naphtha, light aromatic	64742-95-6
Pseudocumene	95-63-6
1,3,5-Trimethylbenzene	108-67-8
Propyl benzene	103-65-1
Naphthalene	91-20-3
Cumene	98-82-8
Xylenes (o-, m-, p- isomers)	1330-20-7
2-Ethyl hexanol	104-76-7
Ethyl benzene	100-41-4

4. FIRST AID MEASURES

General advice	Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.
Eye Contact	Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Notes to physician	Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures. Aspiration hazard if swallowed - can enter lungs and cause damage. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Flash Point 147 °F / 64 °C **Method** Seta closed cup

Autoignition Temperature No information available.

Flammability Limits in Air % Mixture. **Upper** 7.0 **Lower** 0.7

Suitable Extinguishing Media

Water spray. Foam. Dry chemical. Carbon dioxide (CO2).

Specific hazards arising from the chemical

Combustible Liquid. Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	**Health** 2	**Flammability** 2	**Instability** 0
HMIS	**Health** 2	**Flammability** 2	**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.
Environmental Precautions	*Do not flush into surface water or sanitary sewer system.*
Methods for Containment	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13)
Methods for Cleaning Up	Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers.
Neutralizing Agent	Not applicable.

7. HANDLING AND STORAGE

Handling	*Keep away from open flames, hot surfaces and sources of ignition. Avoid breathing vapors or mists.* Avoid contact with skin, eyes and clothing.
Storage	Keep away from heat and sources of ignition. Store in original container. Keep container tightly closed in a dry and well-ventilated place.

Storage Temperature **Minimum** 0 °F / -18 °C **Maximum** 80 °F / 27 °C

Storage Conditions **Indoor** X **Outdoor** X **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
2-Ethylhexyl nitrate	1 ppm (vendor data)	No data available	No data available
Naphtha (petroleum), heavy aromatic	No data available	No data available	No data available
Petroleum naphtha, light aromatic	No data available	No data available	No data available
Pseudocumene	No data available	No data available	TWA: 25 ppm TWA: 125 mg/m^3
1,3,5-Trimethylbenzene	No data available	No data available	TWA: 25 ppm TWA: 125 mg/m^3
Propyl benzene	No data available	No data available	No data available
Naphthalene	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 10 ppm TWA: 50 mg/m^3	IDLH: 250 ppm STEL 15 ppm STEL 75 mg/m^3 TWA: 10 ppm TWA: 50 mg/m^3
Cumene	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m^3 Skin	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m^3
Xylenes (o-, m-, p- isomers)	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m^3	No data available

2-Ethyl hexanol	No data available	No data available	No data available
Ethyl benzene	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m^3	IDLH: 800 ppm STEL 125 ppm STEL 545 mg/m^3 TWA: 100 ppm TWA: 435 mg/m^3

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

Skin Protection Wear suitable protective clothing, Impervious gloves.

Respiratory Protection In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations Ensure that eyewash stations and safety showers are close to the workstation location. Remove and *wash contaminated clothing before re-use.*

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Viscosity**	Non viscous
Color	Orange - Brown	**Odor**	Petroleum distillates
Appearance	Transparent	**pH**	Not applicable
Specific Gravity	0.92	**Evaporation Rate**	0.17 (Butyl acetate=1)
Percent Volatile (Volume)	99.7	**VOC Content (%)**	99.7
VOC Content (g/L)	917	**Vapor Pressure**	0.78 mmHg @ 70°F
Vapor Density	9.6 (Air = 1.0)	**Solubility**	Negligible
Boiling Point/Range	> 320 °F / 160 °C		

10. STABILITY AND REACTIVITY

Chemical Stability Stable. Hazardous polymerization does not occur.

Conditions to Avoid Keep away from open flames, hot surfaces, and sources of ignition

Incompatible Products Strong oxidizing agents, Reducing agents, Acids.

Hazardous Decomposition Products Carbon oxides, Nitrogen oxides (NOx), Aldehydes.

Possibility of Hazardous Reactions None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
2-Ethylhexyl nitrate	> 2000 mg/kg (Rat)	> 4820 mg/kg (Rabbit)	> 14 mg/L (Rat) 4 h > 4.6 mg/L (Rat) 1 h	no data available	no data available
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 590 mg/m^3 (Rat) 4 h	no data available	no data available
Petroleum naphtha, light aromatic	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h = 3400 ppm (Rat) 4 h	no data available	no data available
Pseudocumene	= 3400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m^3 (Rat) 4 h	no data available	no data available
1,3,5-Trimethylbenzene	= 5000 mg/kg (Rat)	no data available	= 24 g/m^3 (Rat) 4 h	no data available	no data available
Propyl benzene	= 6040 mg/kg (Rat)	no data available	no data available	no data available	no data available
Naphthalene	= 490 mg/kg (Rat)	> 2500 mg/kg (Rat) > 20 g/kg (Rabbit)	> 340 mg/m^3 (Rat) 1 h	no data available	no data available
Cumene	= 1400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 39000 mg/m^3 (Rat) 4 h	no data available	no data available
Xylenes (o-, m-, p- isomers)	= 4300 mg/kg (Rat)	> 1700 mg/kg (Rabbit)	= 5000 ppm (Rat) 4 h = 47635 mg/L (Rat) 4 h	no data available	no data available
2-Ethyl hexanol	1516 - 2774 mg/kg (Rat)	no data available	no data available	no data available	no data available
Ethyl benzene	= 3500 mg/kg (Rat)	= 15354 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
2-Ethylhexyl nitrate	no data available	no data available	no data available	no data available	CNS
Naphtha (petroleum), heavy aromatic	no data available	no data available	no data available	no data available	CNS
Petroleum naphtha, light aromatic	no data available	no data available	no data available	no data available	CNS
Pseudocumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears, heart
1,3,5-Trimethylbenzene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears,

					heart
Propyl benzene	no data available	no data available	no data available	no data available	CNS
Naphthalene	no data available	Skin sensitization	no data available	no data available	eyes, blood, liver, kidneys, skin, CNS
Cumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin
Xylenes (o-, m-, p- isomers)	no data available	no data available	yes	no data available	heart, lung, CNS, PNS, respiratory system, ears, liver, kidney
2-Ethyl hexanol	no data available	no data available	no data available	no data available	CNS, lungs, heart, kidney, liver
Ethyl benzene	no data available	no data available	yes	no data available	eyes, CNS, respiratory system, skin

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
2-Ethylhexyl nitrate	not applicable	Group 2A	not applicable	X	not applicable
Naphtha (petroleum), heavy aromatic	not applicable	not applicable	not applicable	not applicable	not applicable
Petroleum naphtha, light aromatic	not applicable	not applicable	not applicable	not applicable	not applicable
Pseudocumene	not applicable	not applicable	not applicable	not applicable	not applicable
1,3,5-Trimethylbenzene	not applicable	not applicable	not applicable	not applicable	not applicable
Propyl benzene	not applicable	not applicable	not applicable	not applicable	not applicable
Naphthalene	not applicable	Group 2B	Reasonably Anticipated	X	x
Cumene	not applicable	Group 2B	not applicable	X	yes - CA Prop 65 List
Xylenes (o-, m-, p- isomers)	not applicable	not applicable	not applicable	not applicable	not applicable
2-Ethyl hexanol	not applicable	not applicable	not applicable	not applicable	not applicable
Ethyl benzene	A3	Group 2B	not applicable	X	X

12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
2-Ethylhexyl nitrate	no data available	LC50 = 116 mg/L Salmo gairdneri 48 h	EC50 = 100 mg/L 15 min	no data available	4.14
Naphtha (petroleum), heavy aromatic	EC50 = 2.5 mg/L Skeletonema costatum 72 h	LC50 = 19 mg/L Pimephales promelas 96 h LC50 = 2.34 mg/L Oncorhynchus mykiss 96 h LC50 = 1740 mg/L Lepomis macrochirus 96 h LC50 = 45 mg/L Pimephales promelas 96 h LC50 = 41 mg/L Pimephales promelas 96 h	no data available	EC50= 0.95 mg/L 48 h	2.9 - 6.1
Petroleum naphtha, light aromatic	no data available	LC50 = 9.22 mg/L Oncorhynchus mykiss 96 h	no data available	EC50= 6.14 mg/L 48 h	N/A
Pseudocumene	no data available	LC50 7.19 - 8.28 mg/L Pimephales promelas 96 h	no data available	EC50= 6.14 mg/L 48 h	3.63
1,3,5-Trimethylbenzene	no data available	LC50 = 3.48 mg/L Pimephales promelas 96 h	no data available	EC50= 50 mg/L 24 h	N/A
Propyl benzene	no data available	no data available	no data available	no data available	3.68
Naphthalene	EC50 = 0.4 mg/L Skeletonema costatum 72 h	LC50 5.74 - 6.44 mg/L Pimephales promelas 96 h LC50 = 1.6 mg/L Oncorhynchus mykiss 96 h LC50 0.91 - 2.82 mg/L Oncorhynchus mykiss 96 h LC50 = 1.99 mg/L Pimephales promelas 96 h LC50 = 31.0265 mg/L Lepomis macrochirus 96 h	EC50 = 0.93 mg/L 30 min EC50 > 20 mg/L 18 h	LC50= 2.16 mg/L 48 h EC50= 1.96 mg/L 48 h EC50 1.09 - 3.4 mg/L 48 h	3.3
Cumene	EC50 = 2.6 mg/L Pseudokirchneriella subcapitata 72 h	LC50 6.04 - 6.61 mg/L Pimephales promelas 96 h LC50 = 4.8 mg/L Oncorhynchus mykiss 96 h LC50 = 2.7 mg/L Oncorhynchus mykiss 96 h LC50 = 5.1 mg/L Poecilia reticulata 96 h	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	EC50= 0.6 mg/L 48 h EC50 7.9 - 14.1 mg/L 48 h	3.55

Xylenes (o-, m-, p- isomers)	no data available	LC50 = 13.4 mg/L Pimephales promelas 96 h LC50 2.661 - 4.093 mg/L Oncorhynchus mykiss 96 h LC50 13.5 - 17.3 mg/L Oncorhynchus mykiss 96 h LC50 13.1 - 16.5 mg/L Lepomis macrochirus 96 h LC50 = 19 mg/L Lepomis macrochirus 96 h LC50 7.711 - 9.591 mg/L Lepomis macrochirus 96 h LC50 23.53 - 29.97 mg/L Pimephales promelas 96 h LC50 = 780 mg/L Cyprinus carpio 96 h LC50 > 780 mg/L Cyprinus carpio 96 h LC50 30.26 - 40.75 mg/L Poecilia reticulata 96 h	EC50 = 0.0084 mg/L 24 h	EC50= 3.82 mg/L 48 h LC50= 0.6 mg/L 48 h	2.77 - 3.15
2-Ethyl hexanol	EC50 = 11.5 mg/L Desmodesmus subspicatus 72 h	LC50 32 - 37 mg/L Oncorhynchus mykiss 96 h LC50 > 7.5 mg/L Oncorhynchus mykiss 96 h LC50 27 - 29.5 mg/L Pimephales promelas 96 h LC50 = 29.7 mg/L Pimephales promelas 96 h LC50 10.0 - 33.0 mg/L Lepomis macrochirus 96 h	no data available	EC50= 39 mg/L 48 h	3.1
Ethyl benzene	EC50 = 4.6 mg/L Pseudokirchneriella subcapitata 72 h EC50 > 438 mg/L Pseudokirchneriella subcapitata 96 h EC50 2.6 - 11.3 mg/L *Pseudokirchneriella* subcapitata 72 h EC50 1.7 - 7.6 mg/L Pseudokirchneriella subcapitata 96 h	LC50 11.0 - 18.0 mg/L Oncorhynchus mykiss 96 h LC50 = 4.2 mg/L Oncorhynchus mykiss 96 h LC50 7.55 - 11 mg/L Pimephales promelas 96 h LC50 = 32 mg/L Lepomis macrochirus 96 h LC50 9.1 - 15.6 mg/L Pimephales promelas 96 h LC50 = 9.6 mg/L Poecilia reticulata 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 mg/L 48 h	3.118

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.
Container Disposal Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Petroleum distillates, n.o.s.
Hazard Class 3
UN-No UN1268
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to DOT.
Description UN1268, Petroleum Distillates, N.O.S., 3, PGIII (>119 gallon - < 119 Not Regulated)

TDG

Proper shipping name Petroleum distillates, n.o.s.
Hazard Class 3
UN-No UN1268
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to TDG.
Description UN1268, Petroleum distillates, n.o.s.,3,III, Marine Pollutant(>119 gallons- <119 gallons not regulated)

ICAO Not regulated
UN-No UN3082

Hazard Class	9
Packing Group	III
Shipping Description	UN3082, Environmentally hazardous substance, n.o.s.,(2-ethylhexyl nitrate),9,III, Marine Pollutant

IATA Not regulated

UN-No	UN3082
Hazard Class	9
Packing Group	III
Shipping Description	UN3082, Environmentally hazardous substance, n.o.s.,(2-ethylhexyl nitrate),9,III, Marine Pollutant

IMDG/IMO

Proper Shipping Name	Environmentally hazardous substance, n.o.s.,(2,ethylhexyl nitrate)
Hazard Class	9
UN-No	UN3082
Packing Group	III
EmS No.	F-E, S-E
Marine Pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
Shipping Description	UN3082, Environmentally hazardous substance, n.o.s.,(2-ethylhexyl nitrate),9,III, Marine Pollutant

15. REGULATORY INFORMATION

Inventories

TSCA	Complies
DSL	Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Pseudocumene	95-63-6	10-30	1.0
Naphthalene	91-20-3	1-5	0.1
Cumene	98-82-8	1-5	1.0
Xylenes (o-, m-, p- isomers)	1330-20-7	1-5	1.0
Ethyl benzene	100-41-4	1-5	0.1

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	Yes	No	No

CERCLA

Component	*Hazardous Substances RQs*	CERCLA EHS RQs
2-Ethylhexyl nitrate	Not applicable	Not applicable
Naphtha (petroleum), heavy aromatic	Not applicable	Not applicable
Petroleum naphtha, light aromatic	Not applicable	Not applicable
Pseudocumene	Not applicable	Not applicable
1,3,5-Trimethylbenzene	Not applicable	Not applicable
Propyl benzene	Not applicable	Not applicable
Naphthalene	100 lb	Not applicable
Cumene	5000 lb	Not applicable
Xylenes (o-, m-, p- isomers)	100 lb	Not applicable
2-Ethyl hexanol	Not applicable	Not applicable
Ethyl benzene	1000 lb	Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B3 Combustible liquid, D2A Very toxic materials, D2B Toxic materials.

16. OTHER INFORMATION

Prepared By	Angela Hutson
Supercedes Date	07/09/2012
Issuing Date	11/20/2012
Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

CERTIFIED LABS, DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 4.6
Revision Date: 2013/05/31

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, BLACK

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01595709
Revision Date: 2013/05/31

Generic Description: Silicone elastomer
Physical Form: Paste
Color: Black
Odor: Slight odor

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged exposure may cause irritation.

Inhalation: No known applicable information.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	If irritation occurs, flush eye(s) with lukewarm gently flowing water for 5 minutes. Obtain medical attention.
Skin:	No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO_2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Avoid eye contact. Avoid skin contact. Do not take internally.

Use reasonable care and store away from oxidizing materials. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.

Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.
Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not take internally. Use reasonable care.
Comments:	Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	Black
Odor:	Slight odor
Specific Gravity @ 25°C:	1.52
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

DOW CORNING(R) 795 SILICONE BUILDING SEALANT, BLACK

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Formaldehyde. Silicon dioxide. Quartz. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
Chronic: No
Fire: No
Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

CAS Number	Wt %	Component Name	
67-56-1	<0.1000	Methyl alcohol	Developmental toxin.

New Jersey

CAS Number	Wt %	Component Name
471-34-1	40.0 - 60.0	Calcium carbonate
70131-67-8	30.0 - 50.0	Dimethyl siloxane, hydroxy-terminated
63148-62-9	7.0 - 13.0	Polydimethylsiloxane
112945-52-5	3.0 - 7.0	Amorphous fumed silica
80801-30-5	1.0 - 5.0	Phenylmethyl siloxane, hydroxy-terminated
14808-60-7	<1.0	Quartz
1333-86-4	<1.0	Carbon black
13463-67-7	<=0.4	Titanium dioxide

Pennsylvania

CAS Number	Wt %	Component Name
471-34-1	40.0 - 60.0	Calcium carbonate
70131-67-8	30.0 - 50.0	Dimethyl siloxane, hydroxy-terminated

63148-62-9	7.0 - 13.0	Polydimethylsiloxane
112945-52-5	3.0 - 7.0	Amorphous fumed silica

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DAP®

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
1-800-327-3874
1-513-558-5111
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.
On peut demader cette fiche signalétique (MSDS) a la langue francaise-canadienne.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: DAP® BEATS THE NAIL® VOC Panel & Foam Construction Adhesive
Product UPC Number: 070798274259
Product Use/Class: Panel & Foam Construction Adhesive Latex
Manufacturer: **DAP Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 10/01/2007
Supersedes: 11/03/2004
MSDS Number: 00070041002

Section 2 - Hazards Identification

Emergency Overview: A white to off-white paste product with a very slight ammonia odor. WARNING! May cause eye, skin, nose, throat and respiratory tract irritation. Harmful if swallowed or absorbed through the skin. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: May cause skin irritation and/or dermatitis. May cause sensitization by skin contact. Harmful if absorbed through the skin.

Effects Of Overexposure - Inhalation: Harmful if inhaled. Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause respiratory system damage.

Prolonged and repeated skin contact may cause irritation and possibly dermatitis. Overexposure may cause kidney, cardiovascular, skin and liver damage.

Formaldehyde vapor is a known animal carcinogen according to OSHA and NTP and is considered possibly carcinogenic

to humans by inhalation. The International Agency for Research on Cancer considers formaldehyde to be a human carcinogen.

Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP
14808-60-7	Silica, crystalline	Suspected human carcinogen.	Not Listed.	Human carcinogen.	Known carcinogen.
50-00-0	Formaldehyde	Suspected human carcinogen.	Potential cancer hazard.	Human carcinogen.	Anticipated carcinogen.
140-88-5	Ethyl arcylate	Not Listed.	Not Listed.	Possible carcinogen.	Not Listed.
75-07-0	Acetaldehyde	Confirmed animal carcinogen with unknown relevance to humans.	Not Listed.	Possible carcinogen.	Anticipated carcinogen.
107-13-1	Acrylonitrile	Confirmed animal carcinogen with unknown relevance to humans.	Cancer hazard.	Possible carcinogen.	Anticipated carcinogen.

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
mestone	1317-65-3	30-60
hyl acrylate,methacrylic aci	25212-88-8	1-5
Silica, crystalline	14808-60-7	0.1-1.0
Ethylene glycol	107-21-1	0.1-1.0
Ammonia	7664-41-7	0.1-1.0
Formaldehyde	50-00-0	<0.02
Ethyl arcylate	140-88-5	<0.007
Acetaldehyde	75-07-0	<0.002
Acrylonitrile	107-13-1	<0.0002

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

First Aid - Skin Contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical aid if symptoms persist. Remove and wash contaminated clothing.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

e to Physician: None.

COMMENTS: Call Medical Emergency at 1-800-327-3874 if any irritation or complication arises from any of the above routes of entry.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: No special protective measures against fire required.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use absorbent material or scrape up dried material and place in container.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Avoid breathing vapor and contact with eyes, skin and clothing. Use only with adequate ventilation. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions. Wash thoroughly after handling.

Storage: Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Close container after each use. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Limestone	1317-65-3	10 MGM3	N.E.	N.E.	5 MGM3 (respirable fraction)	N.E.	N.E.	No
Ethyl acrylate,methacrylic aci	25212-88-8	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Silica, crystalline	14808-60-7	0.05 MGM3	N.E.	N.E.	10/(%SiO2+2) MGM3	N.E.	N.E.	No
Ethylene glycol	107-21-1	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No
Ammonia	7664-41-7	25 PPM	35 PPM	N.E.	50 PPM	N.E.	N.E.	No
Formaldehyde	50-00-0	N.E.	N.E.	0.3 PPM	0.75 PPM	2 PPM	N.E.	No
Ethyl arcylate	140-88-5	5 PPM	15 PPM	N.E.	25 PPM	N.E.	N.E.	Yes
Acetaldehyde	75-07-0	N.E.	N.E.	25 PPM	200 PPM	N.E.	N.E.	No
Acrylonitrile	107-13-1	2 PPM	N.E.	N.E.	2 PPM	10 PPM	N.E.	Yes

Exposure Notes:

50-00-0 Formaldehyde is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1048. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1048.

107-13-1 Acrylonitrile is a specially regulated substance for which an OSHA chemical-specific exposure standard exits. Detailed information regarding this substance may be found in 29 CFR 1910.1045. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1045.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Ensure adequate ventilation, especially in confined areas. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection: Rubber gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Section 9 - Physical And Chemical Properties

Boiling Range: Not Established
Odor: Very Slight Ammonia
Color: White to Off-White
Solubility in H2O: Not Established
Freeze Point: Not Established
Vapor Pressure: Not Established
Physical State: Paste
Flash Point, F: greater than 200 degrees Fahrenheit
Lower Explosive Limit, %: Not Established

Vapor Density: Heavier Than Air
Odor Threshold: Not Established
Evaporation Rate: Slower Than n-Butyl Acetate
Specific Gravity: 1.5
pH: Between 7.0 and 12.0
Viscosity: Not Established
Flammability: Non-Flammable
Method: (Seta Closed Cup)
Upper Explosive Limit, %: Not Established

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg
7664-41-7	Ammonia	----------	Rat:2000 ppm/4H
50-00-0	Formaldehyde	----------	Rat:203 mg/m3
140-88-5	Ethyl arcylate	----------	Rat:1414 ppm/4H
75-07-0	Acetaldehyde	----------	Rat:13300 ppm/4H
107-13-1	Acrylonitrile	Oral Rat:78 mg/kg	Rat:425 ppm/4H

Significant Data with Possible Relevance to Humans: This product contains trace amounts of free formaldehyde. OSHA and NTP identify formaldehyde as a potential carcinogen. IARC identifies formaldehyde as a human carcinogen. Formaldehyde has been shown to cause mutations in a variety of in-vitro test systems, the significance of which to

humans is unknown. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limits.
Maintain adequate ventilation to prevent exposure above current OSHA / ACGIH exposure limits. Workplace monitoring of the air to define formaldehyde exposure levels may be necessary.
In a two-year inhalation study, rats showed carcinogenic effects in the respiratory system at 15 ppm of formaldehyde. Acrylonitrile has been classified by IARC as possibly carcinogenic to humans, by OSHA as carcinogenic and by NTP as reasonably anticipated to be a human carcinogen. This product contains trace amounts of acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a) (2) (ii).

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): None.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	**Packing Group:**	N.A.
DOT Technical Name:	None	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	None

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None.

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None.

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 1 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 28.6 lb/gal: 0.2 wt:wt%: 0.9

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 0.3

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable
N.E. – Not Established
N.D. – Not Determined
VOC – Volatile Organic Compound
PEL – Permissible Exposure Limit
TLV – Threshold Limit Value
CEIL – Ceiling Exposure Limit
LD50 – Lethal Dose 50
F – Degree Fahrenheit
C – Degree Celsius

ACGIH – American Conference of Governmental Industrial Hygienists
SARA – Superfund Amendments and Reauthorization Act of 1986
NJRTK – New Jersey Right-to-Know Law
OSHA – Occupational Safety and Health Administration
HMIS – Hazardous Materials Identification System
NTP – National Toxicology Program
STEL – Short Term Exposure Limit
LC50 – Lethal Concentration 50
MSDS – Material Safety Data Sheet
CASRN – The Chemical Abstracts Service Registry Number

AP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this

document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 4.0
Revision Date: 2011/11/22

DOW CORNING(R) P5200 ADHESION PROMOTER - CLEAR

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 02710480
Revision Date: 2011/11/22

Generic Description: Mixture of inorganic and organic compounds
Physical Form: Liquid
Color: Colorless to pale yellow
Odor: Slight odor

NFPA Profile: Health 2 Flammability 3 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause severe irritation.

Skin: May cause moderate irritation.

Inhalation: Vapor and/or mist may irritate respiratory tract. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: Overexposure by ingestion may cause drowsiness, dizziness, confusion or loss of coordination.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.

Inhalation: Prolonged or repeated exposure by inhalation may injure internally.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
107-51-7	70.0 - 90.0	Octamethyltrisiloxane
18407-95-9	3.0 - 7.0	1-Methoxyisopropyl orthosilicate
682-01-9	3.0 - 7.0	Tetrapropyl orthosilicate
5593-70-4	3.0 - 7.0	Titanium tetrabutanolate

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 - 20 minutes while holding the eyelid(s) open. If contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention.
Skin:	Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Flush with lukewarm gently flowing water for 15 minutes. If irritation persists, repeat flushing. If irritation persists, obtain medical advice.
Inhalation:	Remove from the source of contamination or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen. Obtain medical attention.
Oral:	Never give anything by mouth if victim is rapidly losing consciousness or convulsing. DO NOT INDUCE VOMITING. Have victim drink 2 to 8 oz. (60 to 240 mL) of water. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Have victim rinse mouth with water again. Immediately obtain medical attention.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	87.4 °F / 30.8 °C (Closed Cup)
Autoignition Temperature:	Not determined.

Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use AFFF alcohol compatible foam or water spray (fog). On small fires use AFFF alcohol compatible foam, CO2 or water spray (fog). Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Fire burns more vigorously than would be expected.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves propylene glycol monomethyl ether when exposed to water or humid air. Provide ventilation during use to control propylene glycol monomethyl ether within exposure guidelines or use respiratory protection. Product evolves n-propyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-propyl alcohol within exposure guidelines or use respiratory protection. Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
107-51-7	Octamethyltrisiloxane	Dow Corning guide: TWA 200 ppm.
18407-95-9	1-Methoxyisopropyl orthosilicate	See propylene glycol monomethyl ether comments.
682-01-9	Tetrapropyl orthosilicate	See n-propyl alcohol comments.
5593-70-4	Titanium tetrabutanolate	See n-butyl alcohol comments.

Propylene glycol monomethyl ether is formed on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule) and ACGIH TLV: TWA 100 ppm and STEL 150 ppm. n-Propyl alcohol is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule): TWA 200 ppm, STEL 250 ppm. ACGIH TLV: TWA 100 ppm. n-Butyl alcohol is formed on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule): TWA 100 ppm and ACGIH TLV: 20 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use chemical worker's goggles.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.
Comments:	Product evolves propylene glycol monomethyl ether when exposed to water or humid air. Provide ventilation during use to control propylene glycol monomethyl ether within exposure guidelines or use respiratory protection. Product evolves n-propyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-propyl alcohol within exposure guidelines or use respiratory protection. Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Colorless to pale yellow
Odor:	Slight odor
Specific Gravity @ 25°C:	0.820
Viscosity:	1 cSt
Freezing/Melting Point:	Not determined.
Boiling Point:	> 150 °C
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	87.4 °F / 30.8 °C (Closed Cup)
Autoignition Temperature:	Not determined.

Flammability Limits in Air: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Metal oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

This material contains octamethyltrisiloxane (L3). Repeated exposure in rats to L3 resulted in what appears to be protoporphyrin accumulation in the liver at dose levels that exceed typical workplace or consumer exposures. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown. Industrial, commercial, or consumer intended uses of products containing L3 do not represent a risk to humans.

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

Characteristic Waste:
Ignitable: D001
State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name: Flammable liquids, n.o.s.

Hazard Technical Name: Octamethyltrisiloxane / Tetrabutyl titanate

Hazard Class: 3

UN/NA Number: UN 1993

Packing Group: III

Hazard Label(s): Flammable Liquid

Ocean Shipment (IMDG)

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.

Hazard Technical Name: Octamethyltrisiloxane / Tetrabutyl titanate

Hazard Class:	3
UN/NA Number:	UN 1993
Packing Group:	III
Hazard Label(s):	flammable liquid

Air Shipment (IATA)

Proper Shipping Name:	Flammable liquid, n.o.s.
Hazard Technical Name:	Octamethyltrisiloxane / Tetrabutyl titanate
Hazard Class:	3
UN/NA Number:	UN 1993
Packing Group:	III
Hazard Label(s):	Flammable Liquid

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute:	Yes
Chronic:	Yes
Fire:	Yes
Pressure:	No
Reactive:	No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
107-51-7	70.0 - 90.0	Octamethyltrisiloxane
18407-95-9	3.0 - 7.0	1-Methoxyisopropyl orthosilicate
682-01-9	3.0 - 7.0	Tetrapropyl orthosilicate
5593-70-4	3.0 - 7.0	Titanium tetrabutanolate

Pennsylvania

CAS Number	Wt %	Component Name
107-51-7	70.0 - 90.0	Octamethyltrisiloxane
18407-95-9	3.0 - 7.0	1-Methoxyisopropyl orthosilicate
682-01-9	3.0 - 7.0	Tetrapropyl orthosilicate
5593-70-4	3.0 - 7.0	Titanium tetrabutanolate

DOW CORNING(R) P5200 ADHESION PROMOTER - CLEAR

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

E-Z WELD(R*)

MATERIAL SAFETY DATA SHEET

PREPARED TO U.S. OSHA, CMA, ANSI AND CANADIAN WHMIS, AND EUROPEAN COMMUNITY STANDARDS

PART I WHAT IS THE MATERIAL AND WHAT DO I NEED TO KNOW IN AN EMERGENCY?

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):

LOW VOC PRIMER, CLEANER PRODUCTS:
211 CLEAR PRIMER
212 PURPLE PRIMER
213 PRIMER / CLEANER
214 CLEANER 733 CLEANER

CHEMICAL NAME/CLASS: SOLVENT MIXTURE

PRODUCT USE: PREP. SURFACES FOR SOLVENT CEMENTING

SUPPLIER/MANUFACTURER'S NAME: E-Z WELD, INC

U.S. ADDRESS:
1661 OLD DIXIE HIGHWAY
RIVIERA BEACH, FL 33404

U.S. BUSINESS PHONE: 1-800-327-8460; 1-561-844-0241

U.S. EMERGENCY PHONE:

CHEMTREC:
1-800-424-9300 (U.S. AND CANADA)
1-703-527-3887 (INTERNATIONAL)

DATE OF PREPARATION: APRIL 27 2011

2. COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME CAS # EINECS # % W/W

ACETONE 67-64-1 200-662-2 30-99

METHYL ETHYL KETONE 78-93-3 201-159-0 1-55

CYCLOHEXANONE 108-94-1 203-631-1 0-15

TETRAHYDROFURAN 109-99-9 203-726-8 0-25

CHEMICAL NAME EXPOSURE LIMITS IN AIR
ACGIH OSHA IDLH OTHER
TLV STEL PEL STEL PPM
PPM PPM PPM PPM

ACETONE 500 A4 (NOT 750 1000 NE 2500 NIOSH
CLASSIFIABLE 750 1000 (BASE REL:
AS A HUMAN (VACATED (VACATED D ON TWA: 250
CARCINOGEN) 1989 1989 LEL) DFG MAK:
PEL) PEL) 500
CARCINOGEN:
EPA-D

METHYL ETHYL 200 300 200 300 3000 NIOSH REL:
KETONE (VACATED TWA: 200
1989 STEL: 300
PEL) DFG MAK:
200
CARCINOGEN:
EPA-D

CYCLOHEXANONE 25, SKIN, NE 50 NE 700 NIOSH REL:
A3 25 TWA:
(CONFIRMED (VACATED 25, SKIN
ANIMAL 1989 DFG MAK:
CARCINOGEN PEL) DANGER OF
WITH CUTANEOUS
UNKNOWN ABSORPTION
RELEVANCE CARCINOGEN:
TO HUMANS) IARC-3;
MAK-B

TETRAHYDRO- 50 100 200 250 2000 NIOSH REL:
FURAN A3 (VACATED (BASE TWA: 200
(CONFIRMED 1989 D ON STEL: 250
ANIMAL PEL) LEL) DFG MAK: 50
CARCINOGEN
WITH
UNKNOWN
RELEVANCE
TO HUMANS)

NE = NOT ESTABLISHED.
C = CEILING LIMIT.

SEE ORIGINAL MSDS FOR DEFINITIONS OF TERMS USED.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:
THIS IS A AN EXTREMELY FLAMMABLE LIQUID WITH AN ETHER-LIKE ODOR. THIS PRODUCT COMES IN A VARIETY OF COLORS. INHALATION OVEREXPOSURES TO THE VAPORS OF THIS PRODUCT CAN CAUSE CENTRAL-NERVOUS SYSTEM EFFECTS (INCLUDING DIZZINESS, DROWSINE SS, NAUSEA, AND HEADACHES). THIS PRODUCT CAN BE MILDLY

TO SEVERELY IRRITATING TO THE EYES, SKIN, AND OTHER CONTAMINATED TISSUE. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND MAY TRAVEL TO A SOURCE OF IGNITION AND FLASHBACK TO A LEAK OR OPEN CONTAINER. TETRAHYDROFURAN, A COMPONENT OF THIS PRODUCT, IS KNOWN TO FORM EXPLOSIVE PEROXIDES UNDER CERTAIN CIRCUMSTANCES. EMERGENCY RESPONDERS MUST W EAR THE PROPER PERSONAL PROTECTIVE EQUIPMENT (AND HAVE APPROPRIATE FIRE PROTECTION) SUITABLE FOR THE SITUATION TO WHICH THEY ARE RESPONDING.

HAZARDOUS MATERIAL INFORMATION SYSTEM:
HEALTH (BLUE) 2
FLAMMABILITY (RED) 3
REACTIVITY (YELLOW) 1
PROTECTIVE EQUIPMENT C/D

EYES: CHEMICAL GOGGLES
RESPIRATORY: SEE SECTION 8
HANDS: GLOVES
BODY: APRON

FOR ROUTINE APPLICATIONS.

SEE ORIGINAL MSDS FOR DEFINITION OF RATINGS

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:

THE MOST SIGNIFICANT ROUTES OF OCCUPATIONAL OVER EXPOSURE ARE INHALATION AND CONTACT WITH SKIN AND EYES. THE SYMPTOMS OF OVEREXPOSURE TO THIS PRODUCT, VIA ROUTE OF ENTRY, ARE AS FOLLOWS:

INHALATION:
INHALATION OF VAPORS, MISTS, OR SPRAYS OF THIS PRODUCT CAN BE IRRITATING TO THE NOSE, THROAT, MUCOUS MEMBRANES, AND OTHER TISSUES OF THE RESPIRATORY SYSTEM. SYMPTOMS OF OVEREXPOSURE CAN INCLUDE COUGHING, SNEEZING, AND SHORTNESS OF BREATH. ADDITIONALLY, THE COMPONENTS OF THIS PRODUCT ARE CENTRAL NERVOUS SYSTEM DEPRESSANTS. SYMPTOMS OF OVER-EXPOSURE CAN INCLUDE DROWSINESS, DIZZINESS, FATIGUE, HEADACHE, NAUSEA, AND GENERAL ANESTHETIC EFFECTS. INHALATION OF HIGH CONCENTRATIONS OF THIS PRODUCT (AS MAY OCCUR IN A POORLY-VENTILATED AREA) MAY BE FATAL. BASED ON CLINICAL STUDIES INVOLVING TEST ANIMALS, CYCLOHEXANONE AND TETRAHYDROFURAN, COMPONENTS OF THIS PRODUCT, MAY CAUSE LIVER AND KIDNEY DAMAGE AFTER LONG-TERM INHALATION OVEREXPOSURES.

THIS PRODUCT MUST BE USED WITH ADEQUATE VENTILATION. MECHANICAL EXHAUST MAY BE NEEDED. ENSURE EXPOSURE TO VAPORS IS MINIMIZED BY USE OF APPROPRIATE ENGINEERING CONTROLS, WORK PRACTICES, AND PERSONAL PROTECTIVE EQUIPMENT, AS DESCRIBED IN THE REMAINDER OF THIS DOCUMENT.

CONTACT WITH SKIN OR EYES:
CONTACT WITH THIS PRODUCT CAN BE IRRITATING TO CONTAMINATED SKIN AND EYES. VAPORS OF THIS PRODUCT CAN REDDEN AND IRRITATE THE EYES. IF THE EYES ARE CONTAMINATED WITH SPLASHES, SPRAYS OR MISTS OF THIS PRODUCT, REDDENING, TEARING, AND CORNEAL OPACITY CAN OCCUR. THE LIQUID CAN BE MILDLY TO SEVERELY IRRITATING TO CONTAMINATED SKIN (DEPENDING ON DURATION OF EXPOSURE). PROLONGED OR REPEATED SKIN OVER-EXPOSURES CAN LEAD TO DERMATITIS.

SKIN ABSORPTION:

SKIN ABSORPTION IS A POTENTIAL ROUTE OF OVER-EXPOSURE FOR CYCLOHEXANONE (A COMPONENT OF THIS PRODUCT). SYMPTOMS OF SUCH EXPOSURE CAN INCLUDE THOSE DESCRIBED UNDER "INHALATION" AND "CONTACT WITH SKIN AND EYES".

INGESTION:
INGESTION IS NOT ANTICIPATED TO BE A SIGNIFICANT ROUTE OF OCCUPATIONAL OVEREXPOSURE FOR THIS PRODUCT. IF INGESTION OCCURS, REFER TO SECTION 4 (FIRST-AID MEASURES) AND GET MEDICAL HELP IMMEDIATELY. IF INGESTION OF THIS PRODUCT DOES OCCUR, SYMPTOMS OF SUCH OVER-EXPOSURE CAN INCLUDE NAUSEA, VOMITING, AND OTHER SYMPTOMS DESCRIBED FOR "INHALATION". INGESTION CAN ALSO LEAD TO LIVER AND KIDNEY DAMAGE. INGESTION OF THIS PRODUCT MAY BE FATAL.

INJECTION:
INJECTION IS NOT ANTICIPATED TO BE A SIGNIFICANT ROUTE OF OVER-EXPOSURE FOR THIS PRODUCT. IF INJECTION DOES OCCUR (I.E. THROUGH A PUNCTURE BY AN OBJECT CONTAMINATED WITH THE PRODUCT), LOCAL IRRITATION AND SWELLING CAN OCCUR. ADDITIONAL SYMPTOMS MAY INCLUDE THOSE DESCRIBED FOR "INHALATION".

HEALTH EFFECTS OR RISKS FROM EXPOSURE: AN EXPLANATION IN LAY TERMS.

ACUTE:
OVER-EXPOSURES TO THIS PRODUCT CAN BE IRRITATING TO THE EYES, SKIN, AND MUCOUS MEMBRANES, AND CAN ALSO CAUSE CENTRAL-NERVOUS SYSTEM EFFECTS (DIZZINESS, DROWSINESS, NAUSEA AND HEADACHES). INGESTION OF THIS PRODUCT, OR INHALATION OF HIGH CONCENTRATIONS OF THIS PRODUCT'S VAPORS, MAY BE FATAL.

CHRONIC:
PROLONGED OR REPEATED SKIN EXPOSURES CAN LEAD TO DERMATITIS (DRYNESS, REDDENING AND IRRITATION OF THE SKIN). TETRAHYDROFURAN, A COMPONENT OF THIS PRODUCT, MAY CAUSE LIVER AND KIDNEY DAMAGE AFTE R LONG-TERM INHALATION OVEREXPOSURES. THERE IS LIMITED EVIDENCE FROM ANIMAL STUDIES THAT METHYL ETHYL KETONE, A COMPONENT OF THIS PRODUCT, IS A REPRODUCTIVE TOXIN. REFER TO SECTION 11 (TOXICOLOGICAL INFORMATION) FOR ADDITIONAL INFORMATION. A REPORT FROM THE NATIONAL TOXICOLOGY PROGRAM (NTP) HAS SUGGESTED THAT EXPOSURE OF MICE AND RATS TO TETRAHYDROFURAN (THF) VAPOR LEVELS UP TO 1800 PPM 6 HR/DAY, 5 DAYS/WEEK FOR THEIR LIFETIMES CAUSED AN INCREASED INCIDENCE OF KIDNEY TUMORS IN MALE RATS AND LIVER TUMORS IN FEMALE MICE. NO EVIDENCE OF TUMORS WAS SEEN IN FEMALE RATS OR MALE MICE. THE SIGNIFICANCE OF THESE FINDINGS FOR HUMAN HEALTH IS UNCLEAR AT THIS TIME, AND MAY BE RELATED TO "SPECIES SPECIFIC" EFFECTS. ELEVATED INCIDENCES OF TUMORS IN HUMANS HAVE NOT BEEN REPORTED FOR THF. THE NTP, IARC, OR OSHA DOES NOT LIST THF AS A CARCINOGEN. ONE THF VENDOR (DUPONT) HAS RECOMMENDED A REDUCTION IN THE "ACCEPTABLE EXPOSURE LIMIT" FROM 200 PPM TO 25 PPM, 8 AND 12 HOUR TIME WEIGHTED AVERAGE AND A STEL OF 75 PPM.

PART II WHAT SHOULD I DO IF A HAZARDOUS SITUATION OCCURS?

4. FIRST-AID MEASURES

SKIN EXPOSURE:
IF THIS PRODUCT CONTAMINATES THE SKIN, IMMEDIATELY BEGIN DECONTAMINATION WITH RUNNING WATER. MINIMUM FLUSHING IS FOR 15 MINUTES. REMOVE EXPOSED OR CONTAMINATED CLOTHING, TAKING CARE NOT TO CONTAMINATE EYES. THE

CONTAMINATED INDIVIDUAL MUST SEEK MEDICAL ATTENTION IF ANY ADVERSE EFFECT OCCURS.

EYE EXPOSURE:
IF THIS PRODUCT'S LIQUID OR VAPORS ENTER THE EYES, OPEN VICTIM'S EYES WHILE UNDER GENTLY RUNNING WATER. USE SUFFICIENT FORCE TO OPEN EYELIDS. HAVE VICTIM "ROLL" EYES. MINIMUM FLUSHING IS FOR 15 MINUTES. THE CONTAMINATED INDIVIDUAL MUST SEEK IMMEDIATE MEDICAL ATTENTION.

INHALATION:
IF VAPORS, MISTS, OR SPRAYS OF THIS PRODUCT ARE INHALED, REMOVE VICTIM TO FRESH AIR. IF NECESSARY, USE ARTIFICIAL RESPIRATION TO SUPPORT VITAL FUNCTIONS. REMOVE OR COVER GROSS CONTAMINATION TO AVOID EXPOSURE TO RESCUERS.

INGESTION:
IF THIS PRODUCT IS SWALLOWED, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. IF PROFESSIONAL ADVICE IS NOT AVAILABLE, DO NOT INDUCE VOMITING. THE CONTAMINATED INDIVIDUAL SHOULD DRINK MILK, EGG WHITES, OR LARGE QUANTITIES OF WATER. NEVER INDUCE VOMITING OR GIVE DILUENTS (MILK OR WATER) TO SOMEONE WHO IS UNCONSCIOUS, HAVING CONVULSIONS, OR UNABLE TO SWALLOW.

THE CONTAMINATED INDIVIDUAL MUST BE TAKEN FOR MEDICAL ATTENTION, ESPECIALLY IF ANY ADVERSE EFFECT OCCURS. RESCUERS SHOULD BE TAKEN FOR MEDICAL ATTENTION, IF NECESSARY. TAKE A COPY OF LABEL AND MSDS TO HEALTH PROFESSIONAL WITH VICTIM.

5. FIRE-FIGHTING MEASURES

NFPA RATING:
HEALTH 2
FLAMMABILITY 3
REACTIVITY 1
OTHER

SEE ORIGINAL MSDS FOR DEFINITION OF RATINGS

THE FOLLOWING INFORMATION IS VARIABLE, DEPENDING ON THE BLEND. THE FOLLOWING INFORMATION IS FOR THE MAIN SOLVENTS COMPONENT OF THIS PRODUCT.

FLASH POINT:
ACETONE: -20 DEG. C (-4 DEG. F)
METHYL ETHYL KETONE: -9 DEG. C (16 DEG. F)

AUTOIGNITION TEMPERATURE:
ACETONE: 465 DEG. C (869 DEG. F)
METHYL ETHYL KETONE: 404 DEG. C (759 DEG. F)

FLAMMABLE LIMITS (IN AIR BY VOLUME):

ACETONE:
LOWER (LEL): 2.6%
UPPER (UEL): 12.8%

METHYL ETHYL KETONE:
LOWER (LEL): 1.8%
UPPER (UEL): 10.0%

THE FOLLOWING INFORMATION IS FOR THE PRODUCT.

FIRE EXTINGUISHING MATERIALS:

WATER SPRAY: YES (FOR COOLING ONLY)

CARBON DIOXIDE: YES

FOAM:
YES DRY CHEMICAL: YES

HALON:
YES OTHER: ANY "B" CLASS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
THIS IS A CLASS I-B FLAMMABLE LIQUID. WHEN INVOLVED IN A FIRE, THIS MATERIAL MAY IGNITE AND PRODUCE IRRITATING VAPORS AND TOXIC GASES (E.G., CAR BON MONOXIDE, CARBON DIOXIDE). THIS MATERIAL WILL READILY IGNITE AT ROOM TEMPERATURE. THE VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO A SOURCE OF IGNITION, AND FLASH BACK TO A LEAK OR OPEN CONTAINER. TETRAHYDROFURAN CAN FORM POTENTIALLY EXPLOSIVE PEROXIDES; CLOSED C CONTAINERS CONTAMINATED WITH PEROXIDES CAN RUPTURE VIOLENTLY IN THE HEAT OF A FIRE.

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: NOT SENSITIVE.

EXPLOSION SENSITIVITY TO STATIC DISCHARGE:
THE VAPORS OF THIS PRODUCT CAN BE IGNITED BY STATIC ELECTRICAL ENERGY.

SPECIAL FIRE-FIGHTING PROCEDURES:
INCIPIENT FIRE RESPONDERS SHOULD WEAR EYE PROTECTION. STRUCTURAL FIREFIGHTERS MUST WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT. IF IT IS SAFE TO DO SO, ALLOW SMALL FIRES INVOLVING THIS PRODUCT TO BURN-OUT, WHILE PROTECTING EXPOSURES. IF POSSIBLE, PREVENT RUNOFF WATER FROM ENTERING STORM DRAINS, BODIES OF WATER, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS. IF NECESSARY, RINSE CONTAMINATED EQUIPMENT THOROUGHLY BEFORE RETURNING SUCH EQUIPMENT TO SERVICE.

6. ACCIDENTAL RELEASE MEASURES

RELEASE RESPONSE:
IN CASE OF A SPILL, CLEAR THE AFFECTED AREA AND PROTECT PEOPLE. UNCONTROLLED RELEASES SHOULD BE RESPONDED TO BY TRAINED PERSONNEL USING PRE-PLANNED PROCEDURES. PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. SMALL RELEASES (E.G., 1-PINT) MUST BE CLEANED-UP BY PERSONNEL WEARING GLOVES, GOGGLES, AND APPROPRIATE EYE PROTECTION. FACE SHIELDS MUST BE WORN IF SPLASHES OR SPRAYS OF THIS PRODUCT MAY BE GENERATED. IN THE EVENT OF A NON-INCIDENTAL RELEASE (E.G., FIVE, 1-GALLON CONTAINERS LEAKING SIMULTANEOUSLY IN A POORLY-VENTILATED AREA), THE MINIMUM PERSONAL

PROTECTIVE EQUIPMENT SHOULD BE LEVEL B: TRIPLE-GLOVES (RUBBER GLOVES AND NITRILE GLOVES, OVER LATEX GLOVES), CHEMICALLY RESISTANT SUIT AND BOOTS, HARD-HAT, AND SELF-CONTAINED BREATHING APPARATUS. LEVEL B SHOULD ALWAYS BE USED DURING RESPONSES IN WHICH THE OXYGEN LEVEL IS BELOW 19.5% OR UNKNOWN.

ELIMINATE ALL SOURCES OF IGNITION BEFORE SPILL CLEAN-UP BEGINS. USE NON-SPARKING TOOLS. ABSORB SPILLED LIQUID WITH ACTIVATED CARBON, POLYPADS OR OTHER SUITABLE ABSORBENT MATERIALS. MONITOR THE AREA FOR COMBUSTIBLE VAPORS AND THE LEVEL OF OXYGEN. MONITORING MUST INDICATE LESS THAN 10% OF THE LEL (SEE SECTION 5, FIRE-FIGHTING MEASURES) AND GREATER THAN 19.5% OXYGEN IS IN THE ATMOSPHERE BEFORE PERSONNEL ARE PERMITTED IN THE AREA WITHOUT LEVEL B PROTECTION. PLACE ALL SPILL RESIDUE IN AN APPROPRIATE CONTAINER AND SEAL. DISPOSE OF IN ACCORDANCE WITH U.S. FEDERAL, STATE, OR LOCAL PROCEDURES, THE APPLICABLE STANDARDS OF CANADA AND ITS PROVINCES, OR THE APPROPRIATE REQUIREMENTS OF EUROPEAN COMMUNITY MEMBER STATES (SEE SECTION 13, DISPOSAL CONSIDERATIONS).

PART III HOW CAN I PREVENT HAZARDOUS SITUATIONS FROM OCCURRING?

7. HANDLING AND STORAGE

WORK PRACTICES AND HYGIENE PRACTICES:
AS WITH ALL CHEMICALS, AVOID GETTING THIS PRODUCT ON YOU OR IN YOU. WASH THOROUGHLY AFTER HANDLING THIS PRODUCT. DO NOT EAT, DRINK, SMOKE, OR APPLY COSMETICS WHILE HANDLING THIS PRODUCT. AVOID BREATHING VAPORS OR MISTS GENERATED BY THIS PRODUCT. USE IN A WELL-VENTILATED LOCATION. REMOVE CONTAMINATED CLOTHING IMMEDIATELY.

STORAGE AND HANDLING PRACTICES:
ALL EMPLOYEES WHO HANDLE THIS MATERIAL SHOULD BE TRAINED TO HANDLE IT SAFELY. CONTAINERS OF THIS PRODUCT MUST BE PROPERLY LABELED. IF THIS MIXTURE IS USED IN OTHER TYPES OF CONTAINERS, ONLY USE PORTABLE CONTAINERS APPROVED FOR FLAMMABLE LIQUIDS. POST "NO SMOKING" SIGNS, WHERE APPROPRIATE IN STORAGE AND USE AREAS. USE NON-SPARKING TOOLS. BOND AND GROUND DURING TRANSFER OF MATERIAL. STORE CONTAINERS OF THE PRODUCT IN A COOL, DRY LOCATION, AWAY FROM DIRECT SUNLIGHT, SOURCES OF INTENSE HEAT, OR WHERE FREEZING IS POSSIBLE. MATERIAL SHOULD BE STORED IN SECONDARY CONTAINERS, OR IN A DIKED AREA, AS APPROPRIATE. STORE CONTAINERS AWAY FROM INCOMPATIBLE CHEMICALS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. STORAGE AREAS SHOULD BE MADE OF FIRE-RESISTANT MATERIALS. INSPECT ALL INCOMING CONTAINERS BEFORE STORAGE, TO ENSURE CONTAINERS ARE PROPERLY LABELED AND NOT DAMAGED. REFER TO NFPA 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE FOR ADDITIONAL INFORMATION ON STORAGE. EMPTY CONTAINERS MAY CONTAIN RESIDUAL FLAMMABLE LIQUID OR VAPORS. THEREFORE, EMPTY CONTAINERS SHOULD BE HANDLED WITH CARE. DO NOT EXPOSE "EMPTY" CONTAINERS TO WELDING TOUCHES, OR ANY OTHER SOURCE OF IGNITION.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:
FOLLOW PRACTICES INDICATED IN SECTION 6 (ACCIDENTAL RELEASE MEASURES). MAKE CERTAIN THAT APPLICATION EQUIPMENT IS LOCKED AND TAGGED-OUT SAFELY, IF NECESSARY. COLLECT ALL RINSATES AND DISPOSE OF ACCORDING TO APPLICABLE U.S. FEDERAL, STATE, OR LOCAL PROCEDURES, THE APPLICABLE STANDARDS OF CANADA AND ITS PROVINCES, OR THE APPROPRIATE REQUIREMENTS OF EUROPEAN COMMUNITY MEMBER STATES.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS:
USE WITH ADEQUATE VENTILATION. MECHANICAL EXHAUST MAY BE NEEDED. EMERGENCY EYE-WASH/SAFETY SHOWERS: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE-WASH FOUNTAIN/SAFETY SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

RESPIRATORY PROTECTION:
RESPIRATORY PROTECTION IS NOT GENERALLY NEEDED WHEN USING THIS PRODUCT. MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS BELOW GUIDELINES LISTED IN SECTION 2 (COMPOSITION, INFORMATION ON INGREDIENTS). IF RESPIRATORY PROTECTION IS NEEDED, USE ONLY PROTECTION AUTHORIZED IN 29 CFR 1910.134 OR APPLICABLE STATE REGULATIONS. USE SUPPLIED AIR RESPIRATION PROTECTION IF OXYGEN LEVELS ARE BELOW 19.5% OR ARE UNKNOWN. RESPIRATORY PROTECTION GUIDELINES FOR ACETONE AND METHYL ETHYL KETONE (COMPONENTS OF THIS PRODUCT) ARE PROVIDED AS FOLLOWS.

NIOSH/OSHA RECOMMENDATIONS FOR ACETONE CONCENTRATIONS IN AIR:

UP TO 2500 PPM:
SAR OPERATED IN A CONTINUOUS-FLOW MODE; OR POWERED AIR-PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S); OR FULL-PIECE CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S); OR GAS MASK WITH ORGANIC VAPOR CANISTER; OR FULL-FACEPIECE SCBA; OR FULL-FACEPIECE SAR.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:
POSITIVE PRESSURE, FULL-FACEPIECE SCBA; OR POSITIVE PRESSURE, FULL-FACEPIECE SAR WITH AN AUXILIARY POSITIVE PRESSURE SCBA. ESCAPE: GAS MASK WITH ORGANIC VAPOR CANISTER; OR ESCAPE-TYPE SCBA.

NOTE:
THE IDLH CONCENTRATION FOR ACETONE IS 2,500 PPM (10% OF THE LOWER EXPLOSIVE LIMIT). THIS VALUE IS BASED ON THE LOWER EXPLOSIVE LIMIT (LEL). RESPIRATORY PROTECTION EQUIPMENT MAY NOT BE ADEQUATE FOR FIRE SITUATIONS.

NIOSH RECOMMENDATIONS FOR METHYL ETHYL KETONE CONCENTRATIONS IN AIR:

UP TO 3000 PPM:
SAR OPERATED IN A CONTINUOUS-FLOW MODE; OR POWERED AIR-PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S); OR FULL-PIECE CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S); OR GAS MASK WITH ORGANIC VAPOR CANISTER; OR FULL-FACEPIECE SCBA; OR FULL-FACEPIECE SAR.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:
POSITIVE PRESSURE, FULL-FACEPIECE SCBA; OR POSITIVE PRESSURE, FULL-FACEPIECE SAR WITH AN AUXILIARY POSITIVE PRESSURE SCBA.

ESCAPE: GAS MASK WITH ORGANIC VAPOR CANISTER; OR ESCAPE-TYPE SCBA.

NOTE: THE IDLH CONCENTRATION FOR METHYL ETHYL KETONE IS 3000 PPM.

EYE PROTECTION:
SPLASH GOGGLES OR SAFETY GLASSES. FACE SHIELD SHOULD BE WORN WHEN WORKING IN SITUATIONS IN WHICH SPLASHES OR SPRAYS CAN BE GENERATED.

HAND PROTECTION:
WEAR GLOVES FOR ROUTINE INDUSTRIAL USE TO PROTECT HANDS FROM CONTACT. FOR LONG EXPOSURES, OR UNUSUAL CONTACT, SUCH AS SPILL CLEANUP, CHEMICAL RESISTANT GLOVES MAY BE REQUIRED. SEE SECTION 6.

BODY PROTECTION:
USE BODY PROTECTION APPROPRIATE FOR TASK (E.G., APRON OR TYVEK SUIT).

9. PHYSICAL AND CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (AIR = 1): >1

EVAPORATION RATE (NBUAC = 1): >1

SPECIFIC GRAVITY (WATER = 1): <1.0

FREEZING/MELTING POINT: NOT ESTABLISHED.

SOLUBILITY IN WATER @ 25 DEG. C: SOMEWHAT SOLUBLE.

BOILING POINT: NOT ESTABLISHED.

VAPOR PRESSURE, MM Hg @ 20 DEG. C: NOT ESTABLISHED.

PH: NOT ESTABLISHED.

ODOR THRESHOLD: NOT ESTABLISHED.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT):
NOT ESTABLISHED.

ODOR THRESHOLD: NOT ESTABLISHED.

FORM: LIQUID.

COLOR: CLEAR, PURPLE OR BLUE

ODOR: ETHEREAL.

VISCOSITY: WATER-LIKE.

FLASH POINT:
ACETONE: -20 DEG. C
METHYL ETHYL KETONE: -9 DEG. C

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES):
THE COLOR AND ODOR OF THE PRODUCT MAY BE DISTINCTIVE PROPERTIES OF THIS PRODUCT.

10. STABILITY AND REACTIVITY

STABILITY: STABLE.

NOTE:
TETRAHYDROFURAN, A COMPONENT OF THIS PRODUCT, CAN FORM POTENTIALLY EXPLOSIVE PEROXIDE COMPOUNDS WHEN EXPOSED TO LIGHT OR AIR. THOUGH THIS PRODUCT CONTAINS INHIBITORS TO PREVENT PEROXIDE FORMATION, CARE SHOULD BE USED WHEN STORING THIS PRODUCT, OR HANDLING OLD CONTAINERS OF THIS MATERIAL.

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:
THIS PRODUCT WILL NOT BE COMPATIBLE WITH STRONG OXIDIZERS, LITHIUM ALUMINUM HYDRIDE, AND ALKALINE EARTH HYDROXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

CONDITIONS TO AVOID:
AVOID EXPOSURE OR CONTACT TO EXTREME TEMPERATURES, SOURCES OF IGNITION, INCOMPATIBLE CHEMICALS.

PART IV IS THERE ANY OTHER USEFUL INFORMATION ABOUT THIS MATERIAL?

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:
THE SPECIFIC TOXICOLOGY DATA AVAILABLE FOR COMPONENTS GREATER THAN 1% IN CONCENTRATION ARE AS FOLLOWS.

ACETONE:

EYE IRRITANCY (HUMAN): 500 PPM

SKIN IRRITANCY (RABBIT): 395 MG/OPEN; MILD

SKIN IRRITANCY (RABBIT): 500 MG/24 HOURS; MILD

EYE IRRITANCY (RABBIT): 3950 G; SEVERE

EYE IRRITANCY (RABBIT): 20 MG/24 HOURS; MODERATE

CYTOGENETIC ANALYSIS (SACCHAROMYCES CEREVISIAE): 200 MMOL/TUBE

SEX CHROMOSOME LOSS AND NONDISJUNCTION (SACCHAROMYCES CEREVISIAE): 47,600 PPM

TDLO (INHALATION, MAN): 440 G/M3/6 MONTHS

TDLO (INHALATION, MAN): 10 MG/M3/6 HOURS

TCLO (INHALATION, HUMAN): 500 PPM; EYE EFFECTS

TCLO (INHALATION, MAN): 12,000 PPM/4 HOURS; GASTROINTESTINAL TRACT EFFECTS

LD50 (INTRAVENOUS, RAT): 5500 MG/KG

LD50 (ORAL, RAT): 5800 MG/KG

LC50 (INHALATION, RAT): 50,100 MG/M3/8 HOURS

LDLO (INTRAPERITONEAL, RAT): 500 MG/KG

LD50 (INTRAVENOUS, RAT): 5500 MG/KG

LD50 (ORAL, MOUSE): 3000 MG/KG

LCLO (INHALATION, MOUSE): 110 G/M3/1 HOUR

LD50 (INTRAPERITONEAL, MOUSE): 1297 MG/KG

LDLO (INTRAVENOUS, MOUSE): 4 G/KG

LDLO (ORAL, DOG): 8 G/KG

LD50 (ORAL, RABBIT): 5340 MG/KG

LD50 (SKIN, RABBIT): 20 G/KG

TDLO - ORAL - RAT:

273 GM/KG:

MALE 13 WEEK(S) PRE-MATING:
REPRODUCTIVE - PATERNAL EFFECTS - SPERMATOGENESIS

TCLO - INHALATION:

MAMMAL - SPECIES UNSPECIFIED:
31500 UG/M3/24H: FEMALE 1-13 DAY(S) AFTER CONCEPTION

SEX CHROMOSOME LOSS AND NONDISJUNCTION:
YEAST - SACCHAROMYCES CEREVISIAE: 47600 PPM

CYTOGENETIC ANALYSIS:
RODENT - HAMSTER FIBROBLAST: 40 GM/L

CYCLOHEXANONE:

EYE EFFECTS-HUMAN: 75 PPM

SKIN-RABBIT, ADULT: 500 MG OPEN MILD IRRITATION EFFECTS

EYE EFFECTS-RABBIT, ADULT: 4740 (MICRO)G SEVERE IRRITATION EFFECTS

MICROSOMAL MUTAGENITICITY ASSAY-SALMONELLA TYPHIMURIUM: 20 (MICRO)L/L

MUTATION IN MICROORGANISMS-BACILLUS SUBTILIS: 200 (MICRO)L/L

SISTER CHROMATID EXCHANGE-HAMSTER: OVARY 7500 (MICRO)L/L

ORAL-MOUSE TDLO:
11 G/KG (FEMALE 8-12D POST): REPRODUCTIVE EFFECTS

INHALATION-HUMAN TCLO:
75 PPM: NOSE, EYE EFFECTS, PULMONARY SYSTEM EFFECTS

ORAL-RAT LD50: 1535 MG/KG

INHALATION-RAT LC50: 8000 PPM/4 HOURS

SUBCUTANEOUS-RAT LD50: 2170 MG/KG

ORAL-MOUSE LD50: 1400 MG/KG

INTRAPERITONEAL-MOUSE LD50: 1350 MG/KG

SUBCUTANEOUS-MOUSE LDLO: 1300 MG/KG

INTRAVENOUS-DOG, ADULT LDLO: 630 MG/KG

ORAL-RABBIT, ADULT LDLO: 1600 MG/KG

SKIN-RABBIT, ADULT LD50: 948 MG/KG

TCLO - INHALATION - RAT:

105 MG/M3/4 HOURS:

FEMALE 1-20 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - FERTILITY - PRE-IMPLANTATION MORTALITY

TDLO - ORAL - MOUSE:

11 GM/KG:

FEMALE 8-12 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - EFFECTS ON NEWBORN - GROWTH STATISTICS (E.G.%, REDUCED WEIGHT GAIN)

MUTATION IN MICROORGANISMS: BACTERIA - SALMONELLA TYPHIMURIUM: 20 UL/

MUTATION IN MICRO ORGANISMS - BACTERIA - BACILLUS SUBTILIS: 200 UL/L

CYTOGENETIC ANALYSIS: HUMAN LEUKOCYTE: 100 UMOL/L

CYTOGENETIC ANALYSIS: HUMAN LYMPHOCYTE: 5 UG/L

SISTER CHROMATID EXCHANGE:
RODENT - HAMSTER OVARY: 7500 UL/L

MUTATION IN MAMMALIAN SOMATIC:
RODENT - HAMSTER OVARY: 7500 UL/L

METHYL ETHYL KETONE:

EYE EFFECTS-HUMAN: 350 PPM

SKIN-RABBIT, ADULT: 500 MG/24 HOURS; MODERATE IRRITATION EFFECTS

SKIN-RABBIT, ADULT: 402 MG/24 HOURS; MILD IRRITATION EFFECTS

SKIN-RABBIT, ADULT: 13,780 MG/24H OPEN MILD IRRITATION EFFECTS

EYE EFFECTS-RABBIT, ADULT: 80 MG

SEX CHROMOSOME LOSS AND NONDISJUNCTION - SACCHAROMYCES CEREVISIAE: 33,800 PPM

INHALATION-RAT TCLO: 1000 PPM/(6-15D PREG): TERATOGENIC EFFECTS

INHALATION-HUMAN TCLO: 100 PPM/ 5 MINUTES: IRRITANT EFFECTS

ORAL-RAT LD50: 2737 MG/KG

INHALATION-RAT LC50: 23,500 MG/M3/8 HOURS;

INTRAPERITONEAL-RAT LD50: 607 MG/KG

ORAL-MOUSE LD50: 4050 MG/KG

INHALATION-MOUSE LC50: 40 G/M3/2 HOURS

INTRAPERITONEAL-MOUSE LD50: 616 MG/KG

SKIN-RABBIT, ADULT LD50: 6450 MG/KG

INTRAPERITONEAL-GUINEA PIG, ADULT LDLO: 2 G/KG

INHALATION-UNSPECIFIED EFFECTS LC50: 38 G/M3

INHALATION-RAT TCLO: 5000 PPM/6H/90 DAYS - INTERMITTENT

TDLO - SUBCUTANEOUS - CAT:

55500 MG/KG/37 WEEKS - INTERMITTENT:
REPRODUCTIVE - TUMORIGENIC EFFECTS - OTHER REPRODUCTIVE SYSTEM TUMORS

TCLO - INHALATION - RAT:

3000 PPM/7 HOURS:

FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - SPECIFIC DEVELOPMENTAL ABNORMALITIES - CRANIOFACIAL (INCLUDING NOSE AND TONGUE), UROGENITAL SYSTEM, HOMEOSTASIS

TCLO - INHALATION - RAT:

1000 PPM/7 HOURS:

FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - EFFECTS ON EMBRYO OR FETUS - FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS) REPRODUCTIVE - SPECIFIC DEVELOPMENTAL ABNORMALITIES -

MUSCULOSKELETAL SYSTEM

TCLO - INHALATION - MOUSE:

3000 PPM/7H:

FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - EFFECTS ON EMBRYO OR FETUS - FETOTOXICITY

TETRAHYDROFURAN:

MUTATION IN MICROORGANISMS-ESCHERICHIA COLI: 1 MOL/L

INHALATION-HUMAN TCLO:
25,000 PPM: CENTRAL NERVOUS SYSTEM EFFECTS

ORAL-RAT LD50: 1650 MG/KG.

INHALATION-RAT LC50: 21,000 PPM/3H

INTRAPERITONEAL-RAT LD50: 2900 MG/KG

INHALATION-MOUSE LCLO: 24,000 MG/M3/2 HOURS

INTRAPERITONEAL-MOUSE LD50: 1900 MG/KG

INTRAPERITONEAL-GUINEA PIG, ADULT LDLO: 500 MG/KG

INHALATION-RAT TCLO: 5000 PPM/6 HOURS/91 DAYS - INTERMITTENT

TCLO - INHALATION - RAT:

5000 PPM/6H:

FEMALE 6-19 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - EFFECTS ON EMBRYO OR FETUS - FETOTOXICITY

TCLO - INHALATION - MOUSE:

1800 PPM/6H:

FEMALE 6-17 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE - FERTILITY - POST-IMPLANTATION MORTALITY

MUTATION IN MICROORGANISMS:
BACTERIA - ESCHERICHIA COLI: 1 UMOL/L

SUSPECTED CANCER AGENT:

COMPONENTS OF THIS PRODUCTS ARE LISTED AS FOLLOWS:

ACETONE:
EPA-D: NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY.

METHYL ETHYL KETONE:
EPA-D: NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY.

CYCLOHEXANONE:
IARC-3: NOT CLASSIFIABLE AS A HUMAN CARCINOGEN.
MAK-B: JUSTIFIABLY SUSPECTED OF HAVING CARCINOGENIC POTENTIAL.

THIS PRODUCT'S COMPONENTS ARE NOT FOUND ON THE FOLLOWING LISTS: FEDERAL OSHA Z LIST, NT P, IARC, AND CAL/OSHA AND THEREFORE ARE NEITHER CONSIDERED TO BE NOR SUSPECTED TO BE CANCER-CAUSING AGENTS BY THESE AGENCIES.

IRRITANCY OF PRODUCT:
THIS PRODUCT IS EXPECTED TO MILDLY TO SEVERELY IRRITATE THE SKIN AND EYES.

SENSITIZATION TO THE PRODUCT:
NO COMPONENT OF THIS PRODUCT IS KNOWN TO BE A SENSITIZER WITH PROLONGED OR REPEATED USE.

REPRODUCTIVE TOXICITY INFORMATION:
LISTED BELOW IS INFORMATION CONCERNING THE EFFECTS OF THIS PRODUCT AND ITS COMPONENTS ON THE HUMAN REPRODUCTIVE SYSTEM.

MUTAGENICITY:
THIS PRODUCT IS NOT REPORTED TO PRODUCE MUTAGENIC EFFECTS IN HUMANS. HUMAN MUTATION DATA ARE AVAILABLE FOR CYCLOHEXANONE (A COMPONENT OF THIS PRODUCT); THESE DATA WERE OBTAINED ON SPECIFIC HUMAN TISSUES EXPOSED TO RELATIVELY HIGH DOSES. ANIMAL MUTATION DATA ARE AVAILABLE FOR ACETONE, METHYL ETHYL KETONE, AND TETRAHYDROFURAN (COMPONENTS OF THIS PRODUCT); THESE DATA WERE OBTAINED DURING CLINICAL STUDIES ON SPECIFIC ANIMAL TISSUES OR MICROORGANISMS EXPOSED TO HIGH DOSES OF THESE COMPOUNDS.

EMBRYOTOXICITY:
THIS PRODUCT IS NOT REPORTED TO PRODUCE EMBRYOTOXIC EFFECTS IN HUMANS.

TERATOGENICITY:
THIS PRODUCT IS NOT REPORTED TO CAUSE TERATOGENIC EFFECTS IN HUMANS. THREE ANIMAL STUDIES INVOLVING METHYL ETHYL KETONE (A COMPONENT OF THIS PRODUCT) HAVE SHOWN FETOTOXICITY (SKELETAL ANOMALIES) AT DOSES WHICH DID NOT PRODUCE SIGNIFICANT MATERNAL TOXICITY.

REPRODUCTIVE TOXICITY:
THIS PRODUCT IS NOT REPORTED TO CAUSE REPRODUCTIVE EFFECTS IN HUMANS. REPRODUCTIVE TOXICITY DATA ARE AVAILABLE FOR ACETONE, METHYL ETHYL KETONE AND TETRAHYDROFURAN (A COMPONENT OF THIS PRODUCT); THESE DATA WERE OBTAINED FROM CLINICAL STUDIES ON TEST ANIMALS EXPOSED TO RELATIVELY HIGH DOSES.

A MUTAGEN IS A CHEMICAL WHICH CAUSES PERMANENT CHANGES TO GENETIC MATERIAL (DNA) SUCH THAT THE CHANGES WILL PROPAGATE THROUGH GENERATIONAL LINES. AN EMBRYOTOXIN IS A CHEMICAL WHICH CAUSES DAMAGE TO A DEVELOPING EMBRYO (I.E. WITHIN THE FIRST EIGHT WEEKS OF PREGNANCY IN HUMANS), BUT THE DAMAGE DOES NOT PROPAGATE ACROSS GENERATIONAL LINES. A TERATOGEN IS A CHEMICAL WHICH CAUSES DAMAGE TO A DEVELOPING FETUS, BUT THE DAMAGE DOES NOT PROPAGATE ACROSS GENERATIONAL LINES. A REPRODUCTIVE TOXIN IS ANY SUBSTANCE WHICH INTERFERES IN ANY WAY WITH THE REPRODUCTIVE PROCESS.

ACGIH BIOLOGICAL EXPOSURE INDICES:

CURRENTLY, THERE ARE ACGIH BIOLOGICAL EXPOSURE INDICES (BEIS) ASSOCIATED

WITH COMPONENTS OF THIS PRODUCT, AS FOLLOWS:

CHEMICAL DETERMINANT SAMPLING TIME BEI

ACETONE
ACETONE IN URINE END OF SHIFT 100 MG/L

METHYL ETHYL KETONE (MEK)
MEK IN URINE END OF SHIFT 2 MG/L

TETRAHYDROFURAN (INTENDED)
TETRAHYDROFURAN IN URINE END OF SHIFT 8 MG/L

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PRE EXISTING RESPIRATORY PROBLEMS, DERMATITIS, AND OTHER SKIN DISORDERS, AS WELL AS CONDITIONS INVOLVING THE "TARGET ORGANS" (SEE SECTION 3, HAZARD IDENTIFICATION) CAN BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

RECOMMENDATIONS TO PHYSICIANS:
TREAT SYMPTOMS AND ELIMINATE OVEREXPOSURE. IF NECESSARY, REVIEW FOR BRAIN AND CENTRAL NERVOUS SYSTEM EFFECTS AND CONDUCT PULMONARY FUNCTION TEST. OTHER TESTS FOR LUNG, KIDNEY, AND LIVER EFFECTS MAY ALSO PROVE USEFUL.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY:

THE COMPONENTS OF THIS PRODUCT WILL BIODEGRADE INTO OTHER ORGANIC COMPOUNDS. ENVIRONMENTAL DATA ARE AVAILABLE FOR COMPONENTS OF THIS PRODUCT, AS FOLLOWS:

ACETONE:
LOG KOW = -0.24. WATER SOLUBILITY = MISCIBLE. ACETONE IS QUITE READILY DEGRADED IN THE ENVIRONMENT. BO D = 122%; 5 DAY S. THE POTENTIAL FOR BIOCONCENTRATION IN FISH IS NEGLIGIBLE. ONE EXPERIMENTAL STUDY OF BIOCONCENTRATION IN ADULT HADDOCK AT 7-9 DEG. C (STATIC TEST) RESULTED IN A BCF OF 0.69.

CYCLOHEXANONE:
KOC - 0.81. WATER SOLUBILITY 23,000 MG/L. CY CLOHEXANONE IS NOT RAPIDLY VOLATILIZED FROM WATER, EXCEPT FOR FAST MOVING STREAMS OR VERY SHALLOW PONDS. SIGNIFICANT SOIL LEACHING OCCURS, CONTRIBUTING TO GROUND WATER CONTAMINATION. BIODEGRADATION AND PHOTOLYSIS OCCUR IN WATER. RAPID ATMOSPHERIC DEGRADATION OCCURS VIA PHOTOLYSIS, WITH A HALF-LIFE OF ABOUT 1 TO 5 DAYS.

METHYL ETHYL KETONE:
LOG KOW = 0.29. WATER SOLUBILITY = 239,000 MG/L. METHYL ETHYL KETONE IS RAPIDLY VOLATILIZED FROM WATER AND UNDERGOES SLOW BIODEGRADATION. IT UNDERGOES MODERATE ATMOSPHERIC PHOTODEGRADATION.

TETRAHYDROFURAN:
WATER SOLUBILITY = 30% (25 DEG. C). TETRAHYDROFURAN IS SIGNIFICANTLY BIODEGRADED IN STANDARD TESTS. THIS COMPOUND IS NOT EXPECTED TO BIOCONCENTRATE IN FISH SIGNIFICANTLY.

EFFECT OF MATERIAL ON PLANTS OR ANIMALS:
THIS PRODUCT CAN BE HARMFUL OR FATAL TO CONTAMINATED PLANT OR ANIMAL LIFE, ESPECIALLY IF RELEASED IN LARGE QUANTITIES INTO THE ENVIRONMENT. REFER TO SECTION 11 (TOXICOLOGICAL INFORMATION) FOR INFORMATION REGARDING THE EFFECT OF THIS PRODUCT'S COMPONENTS ON TEST ANIMALS.

EFFECT OF CHEMICAL ON AQUATIC LIFE:
THIS PRODUCT CAN BE HARMFUL OR FATAL TO CONTAMINATED AQUATIC PLANT OR ANIMAL LIFE, ESPECIALLY IF RELEASED IN LARGE QUANTITY IN A BODY OF WATER. THE FOLLOWING PAGE LISTS AQUATIC TOXICITY DATA ARE AVAILABLE FOR THE COMPONENTS OF THIS PRODUCT:

ACETONE:

LC50 (JAPANESE QUAIL):
40,000 PPM, IN DIET, AGE 14 DAYS, (NO MORTALITY TO 40,000 PPM)

LC50 (RING-NECKED PHEASANT):
40,000 PPM, IN DIET, AGE 10 DAYS, (NO MORTALITY TO 40,000 PPM)

LC50 (SALMO GAIRDENERI, RAINBOW TROUT):
5,540 MG/L/86 HOURS/12 DEG. C; (95% CONFIDENCE LIMIT 4,740-6,330 MG/L), WT 1.0 G (STATIC BIOASSAY)

LC50, F (FINGERLING TROUT): 6,100 MG/L/ 24 HOURS

LD100 (ASELLUS AQUATICUS):
3 ML/L/WITHIN 3 DAYS; (WITHIN 3 DAYS OF EXPOSURE) (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LD100 (GAMARUS FOSSARUM):
10 ML/L/WITHIN 48 HOURS; (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LC50 (PIMEPHALEUS PROMELAS):
8,120 MG/L/96 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

TLM (DAPHNIA MAGNA):
10 MG/L/24 AND 48 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

TLM (BRINE SHRIMP):
2100 MG/L 24 AND 48 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

TLM (MOSQUITO FISH):
13000 MG/L/24, 48, AND 96 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LC50 (LEPOMIS MACROCHIRUS, BLUEGILL SUNFISH):
8300 MG/L 96 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LD50 (GOLDFISH):
5000 MG/L/24 HOURS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LC50 (POECILIA RETICULATA, GUPPY):

7,032 PPM/14 DAYS, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LC50 (MEXICAN AXOLOTL):
20.0 MG/L/48 HOURS/3-4 WEEKS AFTER HATCHING, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

LC50 (CLAWED TOAD):
24.0 MG/L/48 HOURS/3-4 WEEKS AFTER HATCHING, (CONDITIONS OF BIOASSAY NOT SPECIFIED)

CYCLOHEXANONE:

LC50 (PIMEPHALES PROMELAS FATHEAD MINNOW): 527 MG/L 96 HOURS

EC0 (BACTERIA PSEUDOMONAS PUTIDA) 16 HOURS: 180 MG/L)

EC0 (ALGAE MICROCYSTIS AERUGINOSA) 8 DAYS: 52 MG/L 7

EC0 (GREEN ALGAE SCENEDESMUS QUADRICAUDA) 7 DAYS: 370 MG/L

EC0 (PROTOZOA ENTOSIPHON SULCATUM) 72 HOURS: 545 MG/L

EC0 (PROTOZOA URONEMA PARDUCZI CHATTON-LWOFF): 280 MG/L

EC0 (BACTERIA PSEUDOMONAS FLUORESCENS) 16 HOURS:
180 MG/L (PH = EC0 (CHILOMONAS PARAMECIUM EHRENBERG) 48 HOURS = 573 MG/L

EC0 (DAPHNIA MAGNA STRAUS) 24 HOURS: 526 MG/L

EC50 (DAPHNIA MAGNA STRAUS) 24 HOURS: 820 MG/L

EC100 (DAPHNIA MAGNA STRAUS) 24 HOURS: 1,240 MG/L

EC0 (DAPHNIA MAGNA) 24 HOURS: 540 MG/L

EC50 (DAPHNIA MAGNA) 24 HOURS: 800 MG/L

EC100 (DAPHNIA MAGNA) 24 HOURS: 1,540 MG/L

LC50 (FATHEAD MINNOW) 96 HOURS: 526; 618; 630 MG/L

LC50 (LEUCISCUS IDUS) 24 HOURS: 538 MG/L

LC50 (LEUCISCUS IDUS) 96 HOURS: 536; 539; 752 MG/L

METHYL ETHYL KETONE:
EC0 (SCENEDESMUS QUADRICAUDA, GREEN ALGAE): 4300 MG/L/8 DAYS
EC0 (ENTOSIPHON SULCATUM, PROTOZOA): 190 MG/L/72 HOURS
EC0 (URONEMA PARDUCZI CHATTON-LWOFF, PROTOZOA): 2830 MG/L
EC0 (PSEUDOMONAS PUTIDA, BACTERIA): 1150 MG/L/16 HOURS
LC50 (PIMEPHALES PROMELAS, FATHEAD MINNOW): 3200 MG/L/96 HOUR
LD0 (PSEUDOMONAS, BACTERIA): 2,500 MG/L
LD0 (SCENEDESMUS, ALGAE): 12,500 MG/L
LD0 (COLPODA, PROTOZOA): 5,000 MG/L
LC50 (MOSQUITO FISH): 5,600 MG/L/2496 HOURS
LC50 (BLUEGILL): 5,6401,690 MG/L/2496 HOURS
LC50 (GOLDFISH): 5,000 MG/L/24 HOURS

TETRAHYDROFURAN:

GROWTH INHIBITION (MICROCYSTIS, BLUE ALGEA): 225 MG/L

TOXICITY THRESHOLD (CELL MULTIPLICATION INHIBIT SYSTEM TEST):
(URONEMA PARDUCZI CHATTON-LWOFF, PROTOZOA): 858 MG/L
(PSEUDOMONAS PUTIDA, BACTERIA): 580 MG/L
(MICROCYTIS AERUGINOSA, ALGEA): 225 MG/L
LC50 (SILVER/GOLDEN ORFE): 2820-2930 MG/L
LC50 (FATHEAD MINNOW): 2160 MG/L/96 HOURS
LC50 (CARP): 4400 MG/L/48 HOURS
LC50 (GOLDFISH): 2400 MG/L/48 HOURS

VOC INFORMATION:
THIS PRODUCT EMITS VOC'S (VOLATILE ORGANIC COMPOUNDS) IN ITS USE. MAKE SURE THAT USE OF THIS PRODUCT COMPLIES WITH LOCAL VOC EMISSION REGULATIONS, WHERE THEY EXIST.

MAX. VOC LEVEL FOR E-Z WELD 211, 212 AND 213:
550 G/L PER SCAQMD TEST METHOD 316A.

VOC LEVEL FOR E-Z WELD 214 AND 733:
10 G/L PER SCAQMD TEST METHOD 316A.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL:
WASTE DISPOSAL MUST BE IN ACCORDANCE WITH APPROPRIATE U.S. FEDERAL, STATE, AND LOCAL REGULATIONS, THOSE OF CANADA AND ITS PROVINCES, AS WELL AS THOSE APPLICABLE TO THE EC MEMBER STATES. THIS PRODUCT, IF UNALTERED BY USE, MAY BE DISPOSED OF BY TREATMENT AT A PERMITTED FACILITY OR AS ADVISED BY YOUR LOCAL HAZARDOUS WASTE REGULATORY AUTHORITY.

U.S. EPA WASTE NUMBER: D001 (CHARACTERISTIC/IGNITABILITY)

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:
FLAMMABLE LIQUID, NOS. (ACETONE, TETRAHYDROFURAN, METHYL ETHYL KETONE, CYCLOHEXANONE)

HAZARD CLASS NUMBER AND DESCRIPTION: 3 (FLAMMABLE LIQUID)

UN IDENTIFICATION NUMBER: NA 1993

PACKING GROUP: II

DOT LABEL(S) REQUIRED: FLAMMABLE LIQUID

NOTE:
SHIPMENTS OF CONTAINERS HOLDING 1-LITER OR LESS IN VOLUME QUALIFY FOR A "LIMITED QUANTITY" EXCEPTION. REFER TO 49 CFR 173.150 FOR ADDITIONAL INFORMATION.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 1996: 127

MARINE POLLUTANT:
NO COMPONENT OF THIS PRODUCT IS DESIGNATED AS A MARINE POLLUTANT BY THE DOT (PER 49 CFR 172.101, APPENDIX B).

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:
THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. USE THE ABOVE INFORMATION FOR THE PREPARATION OF CANADIAN SHIPMENTS.

IMO DESIGNATION:
THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS BY THE INTERNATIONAL MARITIME ORGANIZATION

PROPER SHIPPING NAME:
FLAMMABLE LIQUID, N.O.S. (ACETONE, METHYL ETHYL KETONE)

HAZARD CLASS NUMBER AND DESCRIPTION:
3.1 (FLAMMABLE LIQUID; LOW FLASH POINT)

UN IDENTIFICATION NUMBER: UN 1993

PACKING GROUP: II

LABEL(S) REQUIRED: FLAMMABLE LIQUID

IMDG CODE: 3126

MARINE POLLUTANT:
THIS PRODUCT IS NOT DESIGNATED BY THE IMO TO BE A MARINE POLLUTANT.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):

THIS MATERIAL IS CONSIDERED BY THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE TO BE DANGEROUS GOODS. ADDITIONAL INFORMATION IS AS FOLLOWS:

SUBSTANCE IDENTIFICATION NO.: 1993

NAME OF SUBSTANCE: FLAMMABLE LIQUID, N.O.S.

HAZARD IDENTIFICATION NO. (DESCRIPTION): 33

LABEL: FLAMMABLE LIQUID

CLASS AND ITEM NUMBER:
3,1 DEG. (A), 2 DEG. (A), (B), 3 DEG. (B), 5 DEG. (C)

15. REGULATORY INFORMATION

ADDITIONAL UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS:

THE COMPONENTS OF THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTIONS 302, 304, AND 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT, AND ARE LISTED AS FOLLOWS:

CHEMICAL NAME	SARA 302 (40 CFR 355, APPENDIX A)	SARA 304 (40 CFR TABLE 302.4)	SARA 313 (40 CFR 372.65)
ACETONE	NO	YES	NO
CYCLOHEXANONE	NO	YES	YES
METHYL ETHYL KETONE	NO	YES	YES
TETRAHYDROFURAN	NO	YES	NO

U.S. SARA THRESHOLD PLANNING QUANTITY: NOT APPLICABLE.

U.S. CERCLA REPORTABLE QUANTITY (RQ):
ACETONE: 500 LB.
CYCLOHEXANONE: 5000 LB.
METHYL ETHYL KETONE: 5000 LB.
TETRAHYDROFURAN: 1000 LB.

U.S. TSCA INVENTORY STATUS:
THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

OTHER U.S. FEDERAL REGULATIONS: NOT APPLICABLE.

U.S. STATE REGULATORY INFORMATION:

COMPONENTS OF THIS PRODUCT ARE COVERED UNDER SPECIFIC STATE REGULATIONS, AS DENOTED BELOW:

ALASKA - DESIGNATED TOXIC AND HAZARDOUS SUBSTANCES:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

CALIFORNIA - PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

FLORIDA - SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

ILLINOIS - TOXIC SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

KANSAS - SECTION 302/313 LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

MASSACHUSETTS - SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

MICHIGAN - CRITICAL MATERIALS REGISTER: NO.

MINNESOTA - LIST OF HAZARDOUS SUBSTANCES:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

MISSOURI - EMPLOYER INFORMATION/TOXIC SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

NEW JERSEY - RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

NORTH DAKOTA - LIST OF HAZARDOUS CHEMICALS, REPORTABLE QUANTITIES:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

PENNSYLVANIA - HAZARDOUS SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

RHODE ISLAND - HAZARDOUS SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

TEXAS - HAZARDOUS SUBSTANCE LIST:
ACETONE, METHYL ETHYL KETONE, CYCLOHEXANONE, TETRAHYDROFURAN.

WEST VIRGINIA - HAZARDOUS SUBSTANCE LIST:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

WISCONSIN - TOXIC AND HAZARDOUS SUBSTANCES:
ACETONE, CYCLOHEXANONE, METHYL ETHYL KETONE, TETRAHYDROFURAN.

CALIFORNIA, SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
THIS PRODUCT MAY CONTAIN TRACE CONSTITUENTS, SUCH AS VINYL CHLORIDE, PRESENT IN ONE OF THE PRODUCT'S COMPONENTS. UNDER COMMON USAGE, EXPOSURES TO THESE TRACE CONSTITUENTS AT LEVELS EXCEEDING THE "NO SIGNIFICANT RISK LEVEL" (NSRL) WOULD NOT OCCUR. USERS ARE EXPECTED TO FOLLOW NORMAL PPE AND VENTILATION GUIDELINES SUCH AS THOSE IN SECTION 8 AND OTHER PORTIONS OF THIS MSDS.

VOC INFORMATION:
THIS PRODUCT EMITS VOLATILE ORGANIC COMPOUNDS (VOC'S) DURING USE AND CURE. USERS SHOULD DETERMINE IF LOCAL REGULATIONS REGARDING USE OF VOC CONTAINING PRODUCTS EXIST IN THEIR AREA AND IF THIS PRODUCT COMPLIES.

ANSI STANDARD LABELING (Z129.1):

DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY BE HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE SKIN AND EYE IRRITATION. ASPI RATION HAZARD - CAN CAUSE LIFE - THREATENING LUNG DAMAGE IF SWALLOWED. MAY CAUSE REPRODUCTIVE EFFECTS, BASED ON ANIMAL TESTS. KEEP AWAY FROM HEAT, SPARKS, AND FLAME. AVOID BREATHING VAPOR OR MISTS. AVOID CONTACT WITH SKIN OR CLOTHING. USE ONLY WITH ADEQUATE VENTILATION. KEEP CONTAINER CLOSED. WASH THOROUGHLY AFTER HANDLING. RECOMMENDED MAXIMUM SHELF-LIFE FOR UNOPENED CONTAINERS IS 3 YEARS.

FIRST AID:
IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN OR EYES FOR AT LEAST 15 MINUTES. IF INHALED, MOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IN CASE OF FIRE:
USE FOG, FOAM, DRY CHEMICAL OR CO2. LIQUID WILL FLOAT AND MAY RE-IGNITE ON THE SURFACE OF WATER.

IN CASE OF SPILL:
ABSORB SPILL WITH INERT MATERIAL (E.G. ACTIVATED CARBON) THEN PLACE IN SUITABLE CONTAINER. REFER TO MATERIAL SAFETY DATA SHEET FOR ADDITIONAL INFORMATION ON THIS PRODUCT.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS:
THE COMPONENTS OF THIS PRODUCT ARE ON THE DSL INVENTORY.

OTHER CANADIAN REGULATIONS: NOT APPLICABLE.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LIST:
THE COMPONENTS OF THIS PRODUCT ARE NOT ON THE CEPA PRIORITIES SUBSTANCES LIST.

CANADIAN WHMIS SYMBOLS:
CLASS B2: FLAMMABLE LIQUID
CLASS D2A/B: MATERIALS CAUSING OTHER TOXIC EFFECTS

EUROPEAN COMMUNITY INFORMATION:

EUROPEAN COMMUNITY INFORMATION FOR PRODUCT:

EC LABELING AND CLASSIFICATION:
BASED ON THE INFORMATION ON THE PRODUCT'S COMPONENTS AND AN ASSESSMENT OF THE PHYSICAL AND HEALTH HAZARDS ASSOCIATED WITH THE MATERIAL, THE FOLLOWING ASSIGNMENTS HAVE BEEN MADE (PER COUNCIL DIRECTIVE 67/548/EEC)

EC CLASSIFICATION: HIGHLY FLAMMABLE. IRRITANT. [F;XI]

EC RISK PHRASES:
HIGHLY FLAMMABLE. MAY FORM EXPLOSIVE PEROXIDES. IRRITATING TO EYES AND RESPIRATORY SYSTEM. [R:11-19-36/37]

EC SAFETY PHRASES:
KEEP OUT OF REACH OF CHILDREN.* KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. DO NOT EMPTY INTO DRAINS. DO NOT BREATHE VAPORS. AVOID CONTACT WITH THE EYES. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES. [S:(2-)*16-23-25-29-33] *THIS SAFETY PHRASE CAN BE OMITTED FROM THE LABEL WHEN THE SUBSTANCE OR PREPARATION IS SOLD FOR INDUSTRIAL USE ONLY.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOLS:
EXTREMELY OR HIGHLY FLAMMABLE
HARMFUL OR IRRITANT

EUROPEAN COMMUNITY INFORMATION FOR CONSTITUENTS:
THE FOLLOWING INFORMATION IS AVAILABLE FOR PRIMARY CONSTITUENTS IN THE

COMPONENTS OF THIS PRODUCT.

ACETONE:

EC CLASSIFICATION: HIGHLY FLAMMABLE. [F]

EC RISK PHRASES: HIGHLY FLAMMABLE. [R: 11].

EC SAFETY PHRASES:
KEEP OUT OF REACH OF CHILDREN.* KEEP CONTAINER IN A WELL-VENTILATED PLACE. KEEP AWAY FROM SOURCES OF IGNITION. NO SMOKING. DO NOT BREATHE VAPORS. [S: (2-)*9-16-23-33].

EC COMMENTS:
*THIS SAFETY PHRASE CAN BE OMITTED FROM THE LABEL WHEN THE SUBSTANCE OR PREPARATION IS SOLD FOR INDUSTRIAL USE ONLY.

CYCLOHEXANONE:

EC CLASSIFICATION: FLAMMABLE. HARMFUL. [F; XN]

EC RISK PHRASES: FLAMMABLE. HARMFUL BY INHALATION. [R;10-20].

EC SAFETY PHRASES:
KEEP OUT OF REACH OF CHILDREN.* AVOID CONTACT WITH THE EYES. [S:(2-)* 25].
*THIS SAFETY PHRASE CAN BE OMITTED FROM THE LABEL WHEN THE SUBSTANCE OR PREPARATION IS SOLD FOR INDUSTRIAL USE ONLY.

EC COMMENTS:

CONCENTRATION GREATER THAN OR EQUAL TO 25%:
HARMFUL. HARMFUL BY INHALATION. [XN; R20]. THIS PRODUCT CONTAINS LESS THAN THIS CONCENTRATION; THEREFORE, THIS RISK HAS BEEN OMITTED.

METHYL ETHYL KETONE:

EC CLASSIFICATION: HIGHLY FLAMMABLE. IRRITANT. [F; XI] (

EC RISK PHRASES:
HIGHLY FLAMMABLE. IRRITATING TO THE EYES AND RESPIRATORY SYSTEM. [R: 11-36/37].

EC SAFETY PHRASES:
KEEP OUT OF REACH OF CHILDREN.* KEEP CONTAINER IN A W ELL-VENTILATED PLACE. KEEP AW AY FROM SOURCES OF IGNITION. NO SMOKING. AVOID CONTACT WITH THE EYES. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES. [S: (2-)*9-16-25-33].

EC COMMENTS:
*THIS SAFETY PHRASE CAN BE OMITTED FROM THE LABEL WHEN THE SUBSTANCE OR PREPARATION IS SOLD FOR INDUSTRIAL USE ONLY.

TETRAHYDROFURAN:

EC CLASSIFICATION: HIGHLY FLAMMABLE. IRRITANT. [F;XI]

EC RISK PHRASES:

HIGHLY FLAMMABLE. MAY FORM EXPLOSIVE PEROXIDES. IRRITATING TO EYES AND RESPIRATORY SYSTEM. [R:11-19-36/37]

EC SAFETY PHRASES:
KEEP OUT OF REACH OF CHILDREN.* KEEP AW AY FROM SOURCES OF IGNITION - NO SMOKING. DO NOT EMPTY INTO DRAINS. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES. [S:(2-)*16-29-33] *THIS SAFETY PHRASE CAN BE OMITTED FROM THE LABEL WHEN THE SUBSTANCE OR PREPARATION IS SOLD FOR INDUSTRIAL USE ONLY.

EC COMMENTS:

CONCENTRATIONS GREATER THAN OR EQUAL TO 25 PERCENT:
IRRITANT. IRRITATING TO EYES AND RESPIRATORY SYSTEM. [XI; R36/37]

16. OTHER INFORMATION

PREPARED BY:
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DATE OF PRINTING: APRIL 27 2011

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CLEANER & PRIMER PRODUCTS